NATIONAL PARK SERVICE
U.S. DEPARTMENT OF THE INTERIOR

Pacific West Region: History Program

Administrative History

THE OCEANIC PARK

An Administrative History of Channel Islands National Park

Lary M. Dilsaver and Timothy Babalis

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Pacific West Region
Channel Islands National Park

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By Lary M. Dilsaver and Timothy Babalis

Channel Islands National Park, Department of the Interior
April 2021

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PREFACE AND ACKNOWLEDGEMENTS

Channel Islands National Park is an unusual unit in the national park system. It consists of five islands in the Southern California Bight plus a small headquarters complex and visitor center in the harbor of Ventura, California. It has been called "North America's Galapagos" because of the number and rarity of its endemic and isolated species of fauna and flora. The National Park Service (NPS) recognized the islands as a worthy addition to the national park system by the early 1930s, but it took until the end of the 20th century to gain the land it now controls. Private and military lands still exist on several of the islands. The park has had a complex and controversial history of development and management over the last 82 years. This volume is intended to narrate and explain that history. One of the key documents each national park unit is required to have is an "administrative history." The National Park Service defines the purpose and contents of an administrative history as follows:

The fundamental goal of the National Park Service' administrative history program is to obtain an accurate, thorough, and well-written account of the origin and evolution of each unit of the national park system. A park administrative history explains how the park was conceived and established and how it has been administered up to the present. It focuses on the history of the park as a park and includes the history of various park programs and activities.

The primary audience for park administrative histories is current and future park managers and staff. The more familiar managers and staff are with the problems their predecessors faced and their responses, the better prepared they will be to make thoughtful, informed decisions about ongoing or recurring issues. Administrative histories provide valuable context and inform superintendents about why and how their predecessors made certain decisions. They help superintendents understand past controversies and prepare for future ones and are a critical tool for park managers who seek greater understanding of why and how certain practices and policies evolved.[1] They are one of several baseline studies that the National Park Service requires for each park unit under one of its policy directives—Director's Order 28, *Cultural Resource Management*.[2]

Administrative histories of various parks have proven to be of great interest to scholars in various academic fields as well as to the public who enjoy, support, and care about the parks they visit. Hence, we have written this administrative history with them in mind too. Channel Islands National Park first received funding for an administrative history in 2008. NPS Historian Timothy Babalis was given the task to research and write the report. He gathered data from myriad written sources and oral interviews and produced a lengthy but still incomplete draft by 2014. Then, during an interruption of the funding for the project, he moved to a new position at Pinnacles National Park that included responsibility for the administrative history of that park. Channel Islands looked for more funding and another person to review the draft and complete the many missing portions. After a false start, Chief of Cultural Resources Laura Kirn tracked down Lary Dilsaver who had written histories of Sequoia, Kings Canyon, and Joshua Tree National Parks and Cumberland Island National Seashore. He began in late 2017 using the

1 National Park Service, "Administrative History: A Guide," Department of the Interior, 2004, 4. https://www.nps.gov/parkhistory/hisnps/NPSHistory/guide.pdf.

2 National Park Service, NPS- 28: Cultural Resource Management, June 11, 1998.

newly allocated funds to pay for travel to the park and other archival sources. He edited the existing draft and wrote the significant missing stories that tell the park's "biography of place."

A large number of people helped to make this report possible. Current Channel Islands National Park employees Trish Buffington, Ken Convery, Sterling Holdorf, David Kushner, Derek Lohuis, Yvonne Menard, and Ian Williams took time from their overworked schedules to help. Former park officials including Superintendents William "Bill" Ehorn, Russell Galipeau, Tim Setnicka, and Charles "Mack" Shaver, and current and former staff members Andrew Adams, Kermit "Bob" Besett, Diane Brooks, Kent Bullard, Timothy Coonan, Bruce Craig, Denise Domian, Kate Faulkner, Jack Fitzgerald, Chris Horton, Craig Johnson, Don Morris, Paula J. Power, Dan Richards, Roger Rudolph, Carol Spears, Dave Stoltz, and Earl Whetsell gave interviews, supplied information, and in some cases reviewed parts of the manuscript. Other NPS officials also provided important data and assistance including former Assistant Regional Director Holly Bundock, former Department of the Interior Solicitor Barbara Goodyear, Greg Gress, Chief of the NPS Pacific Land Resources Program, Mediterranean network FMSS Specialist Angela Elston, and Fire Specialists Derrek Hartman and Robert Taylor at Santa Monica Mountains National Recreation Area.

Channel Islands National Marine Sanctuary officials provided information and support for understanding the complex marine resources in the park waters including Mari Cajandig, Chris Caldow, Chris Mobley, Michael Murray, Carol Pillsbury, and especially Lindsey Peavey. Annie Little of the US Fish and Wildlife Service and Kathryn McEachern of the US Geological Survey supplied vital data. Robert "Bob" Hansen, Peter Schuyler, and Lotus Vermeer helped with the complicated story of The Nature Conservancy and Santa Cruz Island. Other important contributions came from Peggy Dahl of the Santa Barbara Museum of Natural History Archives, Marla Daily of the Santa Cruz Island Foundation, John Gherini of Santa Cruz Island, Dr. Lyndal Laughrin of the University of California Research Center on Santa Cruz Island, Mark Oberman of Channel Islands Aviation, and the staff of Island Packers who transported the authors to most of the islands. Special thanks also go to John and Carol Grenfell of Ventura and Paul Petrich of Goleta/Santa Barbara who graciously hosted Lary Dilsaver during his research trips and made the project economically feasible.

Finally, special credit and thanks go to five individuals who made extraordinary contributions to this administrative history. Chief of Cultural Resources Laura Kirn managed the project, an unenviable task on top of all her other many duties, with aplomb and competence. Former Chief Scientist Gary Davis spent many hours in conversation, interviews, and manuscript reviews to bring the stories of the marine resources, the Inventory and Monitoring program, and natural science in the park to fruition. Cartographer Rockne Rudolph supplied a number of the excellent new maps that grace the pages of this report. Of particular note was former Chief of Cultural Resources Ann Huston who was involved in every facet of this document including numerous interviews with current and former park employees, assistance with finding illustrations, many hours spent extensively reviewing the drafts of the manuscript, and even writing portions of the text on cultural resources, transportation, law enforcement, interpretation, and personnel. She was, far and away, the most reliable and helpful person who assisted the authors. Finally, Robin Dilsaver helped every step of the second phase of research and also proofed the manuscript and offered excellent constructive criticism.

ACRONYMS AND ABBREVIATIONS

ACC	Accession number (for archives files)
ANCS	Automated National Catalogue System
AUM	Animal Unit Month
BCDC	Bay Conservation and Development Commission
BLM	Bureau of Land Management
BOR	Bureau of Outdoor Recreation
BP	Before Present
CCC	Civilian Conservation Corps
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Commission
CHIS	Channel Islands National Park
CIMMRC	Channel Islands Marine Resource Restoration Committee
CINM	Channel Islands National Monument
CINMS	Channel Islands National Marine Sanctuary
CINP	Channel Islands National Park
CLI	Cultural Landscape Inventory
CNPS	California Native Plant Society
CSUCI	California State University, Channel Islands
CSULB	California State University, Long Beach
CZMA	Coastal Zone Management Act
DCP	Development Concept Plan
DDT	Dichloro-diphenyl-trichloroethane
DOI	Department of the Interior
DSC	NPS Denver Service Center
EEZ	Exclusive Economic Zone
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FHOA	Friends of Horses and Other Animals
FTE	Full-time Equivalent
GAO	Government Accounting Office
GIS	Geographic Information System
GMP	General Management Plan
I&M	Inventory and Monitoring
KEMP	Kelp Forest Monitoring Program
KFMP	Kelp Forest Monitoring Program
LACMNH	Los Angeles County Museum of Natural History

LCP	Local Coastal Plan
LPP	Land Protection Plan
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MPH	Miles Per Hour
MRWG	Marine Reserve Working Group
NAGPRA	Native American Graves Protection and Repatriation Act
NAMTC	Naval Air Missile Test Center
NARA	National Archives and Records Administration
NASA	National Aeronautic and Space Administration
NASB	National Archives and Records Administration, San Bruno
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPCA	National Parks and Conservation Association, later National Parks Conservation Association
NPS	National Park Service
NRCA	Natural Resource Condition Assessment
OCS	Outer Continental Shelf
OFS	Operations Formulation System
PCB	Polychlorinated biphenyl
PISCO	Partnership for Interdisciplinary Studies of Coastal Oceans
PMIS	Project Management Information System
RMP	Resource Management Plan
RUO	Reservation of Use and Occupancy
SA	Settlement Agreement
SAC	Sanctuary Advisory Council
SAR	Search and Rescue
SBMNH	Santa Barbara Museum of Natural History
SCIC	Santa Cruz Island Company
SCIF	Santa Cruz Island Foundation
SPMA	Southwest Parks and Monuments Association
SUP	Special Use Permit
TNC	The Nature Conservancy
UCB	University of California, Berkeley
UCLA	University of California, Los Angeles
UCSB	University of California, Santa Barbara
UNESCO	United Nations Educational, Scientific and Cultural Organization
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard

USFWS	United States Fish and Wildlife Service
USFS	United States Forest Service
USGS	United States Geological Survey
UXO	Unexploded Ordnance
V&V	Vail and Vickers
VCOE	Ventura County Office of Education
VIP	Volunteers-in-Parks Program
WACC	Western Archeological Conservation Center
WODC	Western Office of Design and Construction
WQCB	California Regional Water Quality Control Board
WRD	NPS Water Resources Division
WRO	Western Regional Office

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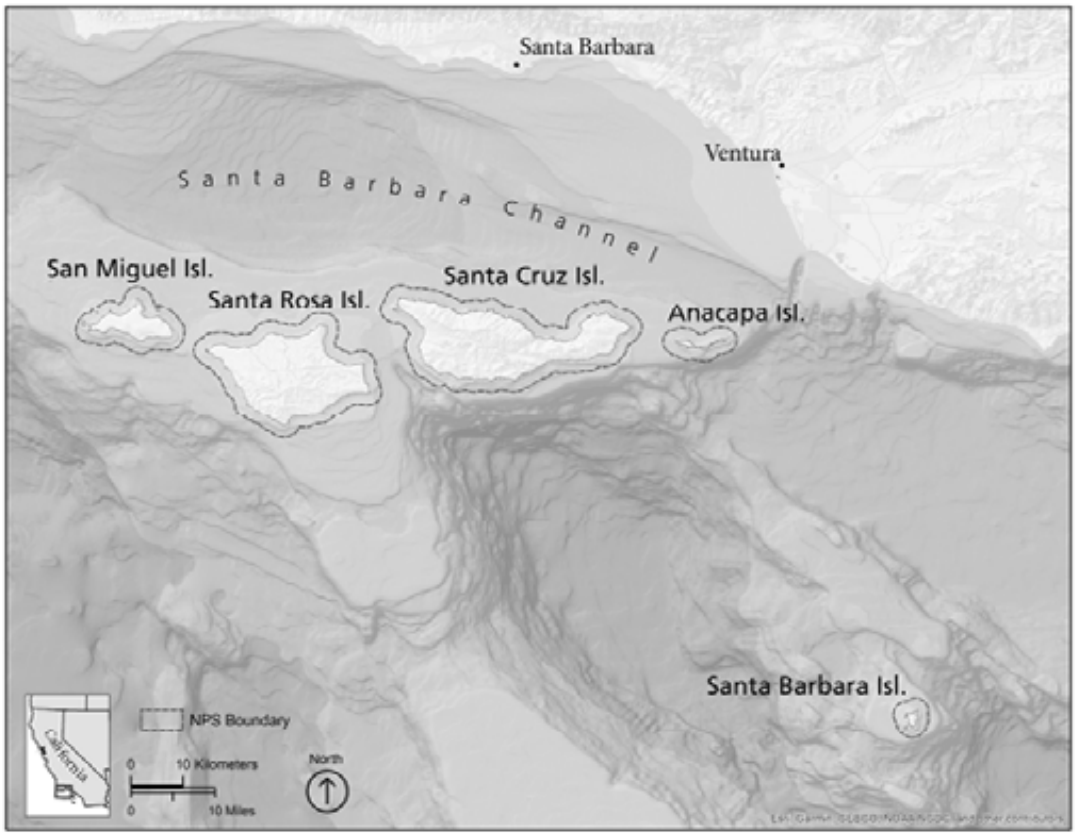
INTRODUCTION

The Channel Islands off the coast of Southern California consist of eight main islands plus assorted rocks and small isles. Channel Islands National Park includes five of the islands which total 125,007 acres. Four comprise the Northern Channel Islands, an extension of the state's Transverse Ranges. From east to west they are Anacapa, Santa Cruz, Santa Rosa, and San Miguel Islands. The fifth and smallest, Santa Barbara Island, sits alone well to the south. They had varied histories before their inclusion in the national park. The National Park Service (NPS) controls Anacapa, Santa Barbara, and Santa Rosa Islands as well as the eastern one-fourth of Santa Cruz Island. The Nature Conservancy owns the other three-fourths of that largest island but cooperates fully with the federal agency. The agency manages San Miguel Island but it is still the property of the US Navy. That situation brings an element of jurisdictional complexity. The Park Service gained control of all these lands between 1938 and 2000. Acquisition of the two largest islands, Santa Rosa and Santa Cruz, has seen former owners depart under contentious circumstances that brought emotional support from some of the local public, but lengthy legal proceedings nonetheless. The park also includes 124,554 acres of the surrounding Pacific Ocean where complex legal jurisdiction means it has to share responsibility with and, in many cases, yield administrative control to other government entities including the California Department of Fish and Wildlife (formerly California Department of Fish and Game), the California State Lands Commission, and the National Oceanic and Atmospheric Administration.



Map I-1. The five Channel Islands in the national park.

Source: Cartography by Rockne Rudolph, Channel Islands National Park

Management of the islands by the National Park Service comes with a strong mandate enshrined in the agency's Organic Act of 1916. Congress established the National Park Service on August 25, 1916, to manage the collection of parks and monuments haphazardly run by a few Department of the Interior officials. The Act states, "the service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."[3] The key word in the law is "unimpaired" and many a court case has ruled on its meaning.

The first director of the National Park Service, Stephen Mather, and his assistant and eventual successor, Horace Albright, came to their tasks with missionary zeal. They had good reason to pursue their tasks with vigor. The US Forest Service, a part of the Department of Agriculture, loudly argued that it should run the parks and that this division of land management between multiple agencies was unnecessary and improper. Hence, the very survival of the new National Park Service was at stake. A critical factor in the agency's survival was initiation of a program to identify types of places that the national system should have. During the 1930s, America's coastlines became prominent targets to investigate for additions to the portfolio of park units. In a few cases they included nearby islands.

Identifying desirable places to add to the expanding park system is only the first step, however. Congress and the president have to act as well to establish a new park or monument. Their political actions determine the laws that apply to managing each new unit. What a park's enabling act specifically says is the first and most forceful of the governing principles that shape its management policies. A second set of laws is another determining factor. The division of powers among the federal and state governments is fundamental. Even a federal enabling act cannot suspend inalienable states' rights. Thereafter, laws such as the Antiquities Act, the National Environmental Policy Act, the Endangered Species Act, the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, and myriad other specific federal and state laws must be obeyed. Among them are laws that enforce legally drawn contracts that affect a park's land and uses. The next level of control on management are NPS policies evolved through years of management experience and court decisions. Thereafter, management plans developed by a park and vetted by the public in a NEPA process establish procedures in administration of a park. Finally, the superintendent of an individual park can determine rules for that unit's day-to-day operation. That leader also has a strong role in shaping the aforementioned plans and policies for the park.

What this all means is that the rule of law is ultimately paramount in a national park unit as in most other facets of life. Situations constantly arise where law must be applied or interpreted by the courts. Decisions can be appealed, but they cannot be ignored. However, just because a law exists that applies to a particular situation, it does not mean that there is no difference of opinion on how an issue should be settled. Political beliefs, personalities, and emotions shape public perception and, sometimes actions. Because national parks are important to the American people, intense feelings ensue when a policy is applied.

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3 "An Act to Establish a National Park Service, and for other purposes," August 25, 1916. (39 Stat. 535).

Over the decades, the National Park Service has evolved an ever more scientific method of management. Channel Islands National Park has been the proving ground for some of the most advanced methods and policies, most notably, the now-systemwide natural resource inventory and monitoring program. In 1938, the agency's most influential officials were landscape architects and disciples of Stephen Mather who sought to make parks more accessible to and cherished by visitors. In 2019, those goals still matter, but they are concomitant with a backbone of scientific resource and preservation policy and a recognition of the challenges of protecting park resources for future generations. Public safety, maintenance, education, interpretation, and access all still count heavily in decision making and management. Nuanced protection of the *raison d'etre* for the park—cultural and natural resources—has assumed a more prominent role. And those resources at Channel Islands are extraordinary. Scores of endemic and threatened species, marine mammals and habitats unrivaled for their richness, one of the rarest mammoth fossils in the world, and some of the oldest archeological evidence of human habitation in North America.

That is not to say that damage and destruction have not occurred. Humans have left their mark on the islands for more than 13 millennia. For 150 years, the five islands were subjected to grazing, rooting, and other ecological changes by cattle, pigs, rabbits, rats, burros, horses, deer, elk, and, worst of all, sheep—John Muir's "hoofed locusts." Beginning in the 1970s, the National Park Service has emphasized a mission that continues today with urgency and against sometimes considerable resistance—restoration ecology. Eradication of nonnative animals has been decidedly controversial. It has outraged former landowners and animal rights advocates. Removal or at least control of widespread exotic plants will continue to challenge the National Park Service in the future. Fundamental questions about policy and law have been broached about the idea of restoring ecosystems to a hypothetical natural condition or at least to ecological integrity.[4] Similar questions about what cultural features to preserve and interpret have also been debated, although not as vociferously.

Channel Islands National Park is a laboratory for executing national policies and politics that deal with human-environment interaction. Its history includes opportunities for island acquisition gained, embattled, and lost. Jurisdiction over and protection of the marine resources in the surrounding sea also underwent victories and setbacks. NPS staff at the park, especially the superintendents, plus researchers, former landowners, environmentalists, fishermen, and the media have all played parts for an avidly interested public. The sheer complexity of making five islands, their surrounding waters, and a mainland base accessible to visitors and usable by park staff has been daunting. Greeting, educating, and ensuring the safety of visitors has become a task with worldwide implications. It is a complex and enlightening story that is still unfolding.

4 Ecological integrity is defined as "the quality of ecosystems that are largely self-sustaining and self-regulating. Such ecosystems may possess complete food webs, a full complement of native animal and plant species maintaining their populations, and naturally functioning ecological processes such as predation, nutrient cycling, disturbance and recovery, succession, and energy flow." Science Committee of the National Park Service Advisory Board, "Revisiting Leopold: Resource Stewardship in the National Parks" (2012). Reprinted in Lary Dilsaver, ed., *America's National Park System: The Critical Documents*, 2nd edition, (Lanham, MD: Rowman and Littlefield, 2016), 450.

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CHAPTER ONE

The Channel Islands of California

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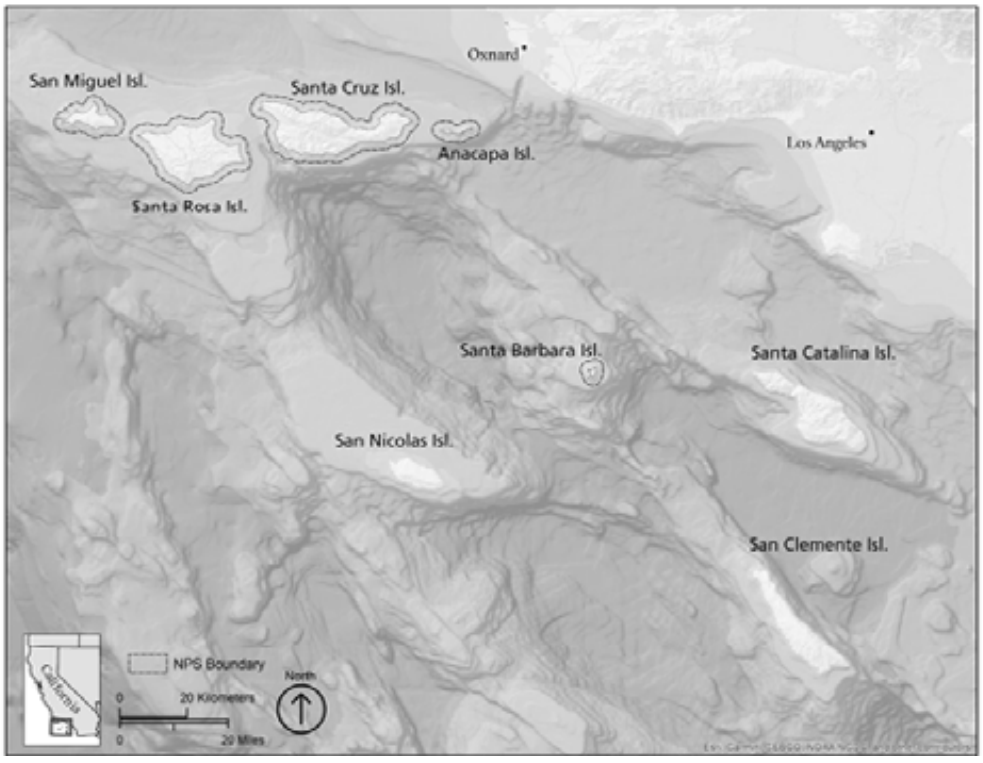
CHAPTER ONE: THE CHANNEL ISLANDS OF CALIFORNIA

At the same latitudes as mainland California, running from Santa Barbara to La Jolla, lies an archipelago of islands known as the California Channel Islands. They consist of eight main islands and an aggregation of small isles and rocks that encircle each. They occur in two clusters that roughly parallel the mainland shores. In the north lie four islands—Anacapa, Santa Cruz, Santa Rosa, and San Miguel—the remaining highlands of a larger, Pleistocene-era island geologists call Santarosae that extended west from the rest of the Transverse Ranges. The nearest, Anacapa, lies only 12 miles southwest of Ventura. The farthest, windswept San Miguel, is 25.7 miles from Point Conception but 64 miles from Ventura. This group comprises the bulk of Channel Islands National Park. The four southern islands—Santa Barbara, Santa Catalina, San Clemente, and San Nicolas—are much farther apart and lie like the corners of a rumpled trapezoid. Santa Barbara on the northeast corner is the smallest of all eight islands and the final piece of the national park lying 38 miles from the mainland. Southeast of it lies the privately owned island of Santa Catalina, by far the most famous of all with its decades of high-profile tourism. Westward lie the last two islands, both controlled by the United States Navy. San Nicolas Island, the farthest of all eight from any point on the mainland at 53 miles, achieved fame due to the fate of an early 19th century American Indian who was left alone there for 18 years after her people were removed to the mainland, and whose story formed the basis of Scott O'Dell's novel *Island of the Blue Dolphins*. Finally, San Clemente Island, southeast of San Nicolas, houses another US Navy base and is one of the nation's last target islands for naval gunnery and missile practice.



Map 1-1. The eight Channel Islands showing the contours of the Pacific Ocean floor.

Source: Cartography by Rockne Rudolph, Channel Islands National Park

PHYSIOGRAPHY OF THE LAND AND SEA

California's Channel Islands, as well as the Southern California Bight in which they lie, have been formed by plate tectonics. From the Miocene period, some 30 million years ago, three plates have shaped the western edge of North America. An oceanic segment of the crust known as the Farallon plate converged on the westward-moving, continental North American plate. Along the zone of contact, a process called subduction occurred whereby the thinner oceanic plate drove into a deep trench and melted back into the Earth's mantle. Pushing the Farallon plate eastward was the enormous Pacific plate, which moves in a northwesterly direction. Between 27 and 18 million years ago, the Farallon plate completely subducted, bringing the North American and Pacific plates in contact along a predecessor of the San Andreas Fault that today runs from the Gulf of California to Cape Mendocino. In the process, the Pacific plate plucked off pieces of the continental plate. Later, some of the plucked pieces "docked" back onto the continent during this lateral convergence. The topographies of the Channel Islands and the southern Coast Range are the result of that grinding collision among the three giant plates.

A major feature of this contact zone is an extension of the continental shelf south of Point Conception. Whereas the shoreline juts eastward from that point, the broad continental shelf continues due south with its edge along the Patton Escarpment lying more than twice the distance from the mainland as San Nicolas Island. By the latitude of Los Angeles, the edge of the shelf is nearly 120 miles west of the mainland beaches. This marine region consists of a complex array of northwest-trending basins and ridges. The eight Channel Islands are the tops of mountains that owe their origins to two major tectonic processes. First, geologists believe that beginning 18 to 20 million years ago, one piece of the continent got caught up in the shear between the plates. The western portion of what today is known as the Transverse Ranges on which the Northern Channel Islands are located was oriented north-south along the coast, with the material that forms San Miguel Island lying near San Diego. As that piece of the continent moved north, it had its southern end pulled out while its northern end embedded in the continent. Geologists estimate that the block that became the Northern Channel Islands, rotated clockwise approximately 110 degrees to its current east-west orientation. East of the rotating block, a gap opened creating the space now partially occupied by the Los Angeles basin. Approximately five million years ago, the Pacific plate captured Baja California and began transporting it northwestward, colliding with Southern California. This created compression, folding, and faulting that lifted the Northern Channel Islands. Both Santa Cruz and Santa Rosa Islands have large faults that are marked by valleys where the surface features of the north and south parts of those islands are dissimilar. These compressional forces continue to make this area of California prone to earthquakes.[5]

5 CINP, "Geologic Formations." https://www.nps.gov/chis/learn/nature/geologicformations.htm Accessed June 29, 2018; K. T. McEachern, T. Atwater, P. W, Collins, K. Faulkner, and D. Richards. "Managed Island Ecosystems." In: H. Mooney and E. Zavaleta, eds. *Ecosystems of California*. (Oakland, CA: University of California Press, 2016) 755-78.

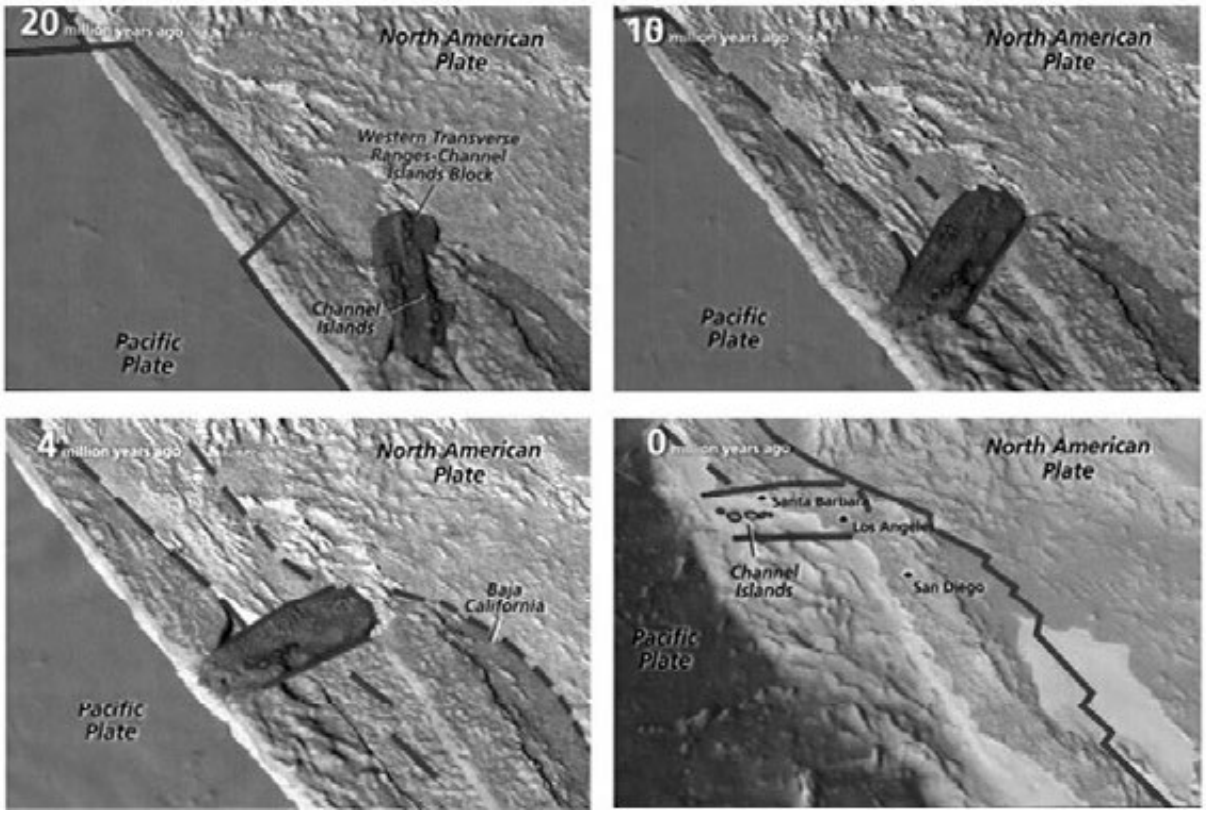


Figure 1-1. A sequence of four diagrams (1a-1d) showing the shifting block of the western Transverse Range that rotated 110 degrees to form the Northern Channel Islands.

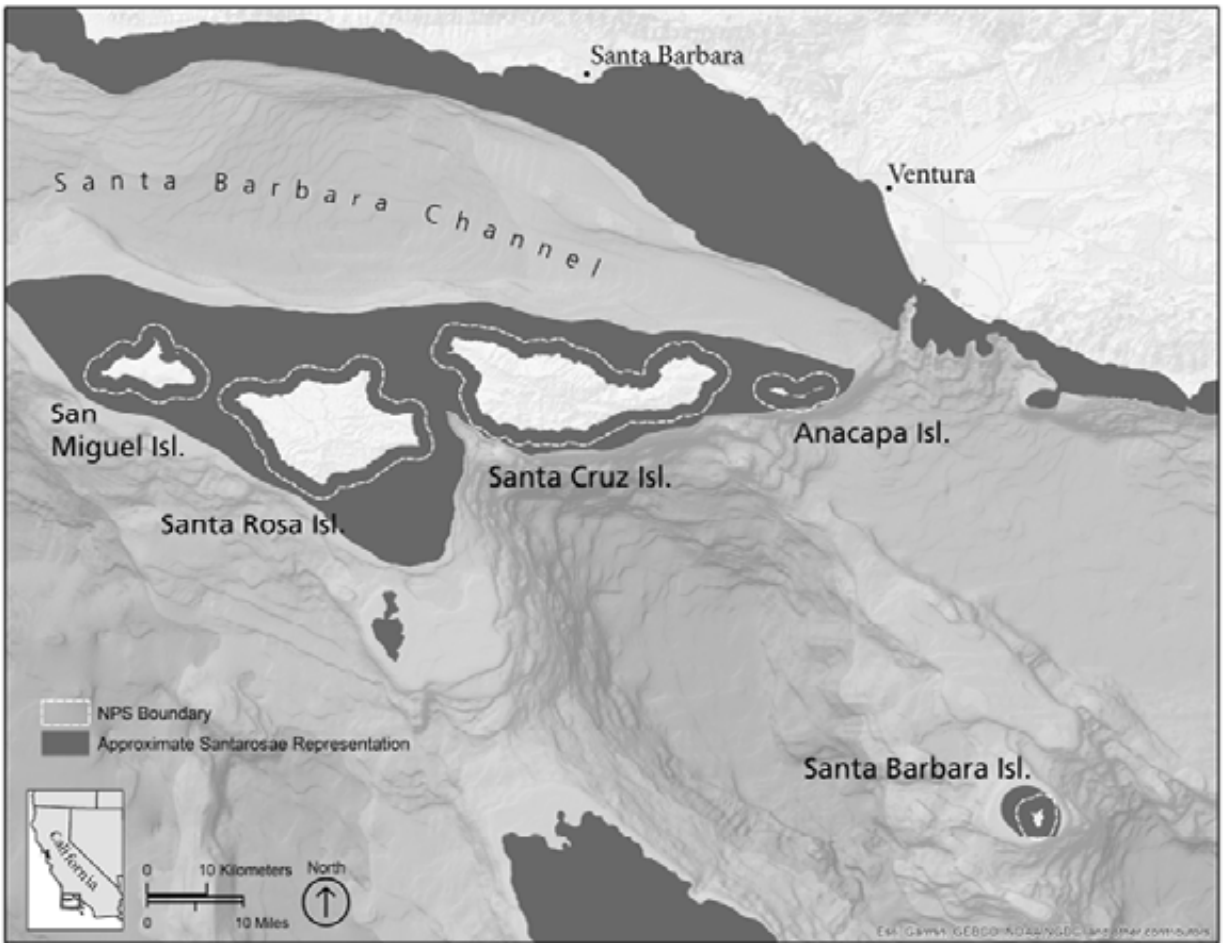
Source: Designed by Derek Lohuis, Channel Islands National Park

Second, the rotation of the platform on which the northern four islands are located caused the ocean crust to thin allowing molten rock to erupt from the sea floor. Between 18 and 12 million years ago, volcanoes covered much of the area that now contains the Channel Islands. In the mainland Santa Monica Mountains, the name given to this volcanic sequence is the Conejo Volcanics. On the Channel Islands, this episode is named for the islands on which they are found—the Santa Rosa Island Volcanics and the San Miguel Island Volcanics. They do not have the same magma source as those on the mainland, but they were formed by the same thinning and compression of the crust during the rotation. The islands of Santa Barbara and Anacapa are composed almost entirely of volcanic rocks from this period of eruptions. The four southern islands—Santa Catalina, San Clemente, San Nicolas, and Santa Barbara—are the highest portions of the submarine ridges that trend, along with their interspersed basins, southeast-to-northwest, almost exactly 45 degrees off true north and parallel to the mainland as it reestablishes its north-south trending shoreline south of Los Angeles.[6]

Another factor in the geologic story of the Channel Islands is the fluctuation of sea level during periodic glacial advances and retreats. Coupled with Pleistocene tectonic uplift this fluctuation has caused ancient shorelines to exist as marine terraces at multiple elevations. During the last Ice

6 CINP, "Geologic Formations"; McEachern et al. 2016, 755-78.

Age, which ended about 10,000 years ago, sea level was approximately 400 feet lower than it is today. During that period, the four northern islands formed the large island Santarosae. It lay only five miles west of the mainland during the glacial advances. Paleontologists believe that it was close enough to enable Columbian mammoths to swim to the big island, possibly as early as 80,000 years before present (BP).[7] The large mammoths evolved into a new species of smaller pygmy mammoths owing to limited food resources and disappeared about the same time the last Ice Age ended. The modern islands comprise only 30 % of the acreage that Santarosae once had. Marine terraces from that glacial era are now underwater while some of the older marine terraces on the islands are found at elevations ranging from 20 feet to nearly 1,000 feet above sea level.[8]



Map 1-2. Santarosae Island and California Coast during the late Pleistocene era.

Source: Cartography by Rockne Rudolph, Channel Islands National Park

Santa Cruz, Santa Rosa, and San Miguel Islands have both floodplains and wetlands. The floodplains occur where there are perennial and intermittent streams. At Scorpion Creek or in

7 Daniel R. Muhs, Kathleen R. Simmons, R. Randall Schumann, Lindsey T. Groves, Larry Agenbroad. "Late Quaternary sea-level history and the antiquity of the pygmy mammoth (*Mammuthus exilis*), Channel Islands National Park, California." PowerPoint presentation at CINP, 2016, images on park network.

8 McEachern et al. "Managed Island Ecosystems," 755-78.

the lower reaches of Cañada del Puerto on Santa Cruz Island, they are fairly extensive, but in most other cases the floodplains are fairly confined in the low-gradient coastal areas of various streams. Wetlands were delineated by NPS staff on Santa Cruz Island at the lower end of Scorpion Valley and at Prisoners Harbor in May 2003. They are considered to be jurisdictional wetlands by the National Park Service and are under the jurisdiction of the US Army Corps of Engineers (USACE). In 2011, Channel Islands National Park and The Nature Conservancy (TNC) restored 3.1 acres of coastal wetland at Prisoners Harbor to functioning coastal wetland habitat. The wetlands are particularly important for a number of the bird populations on the larger islands.[9]

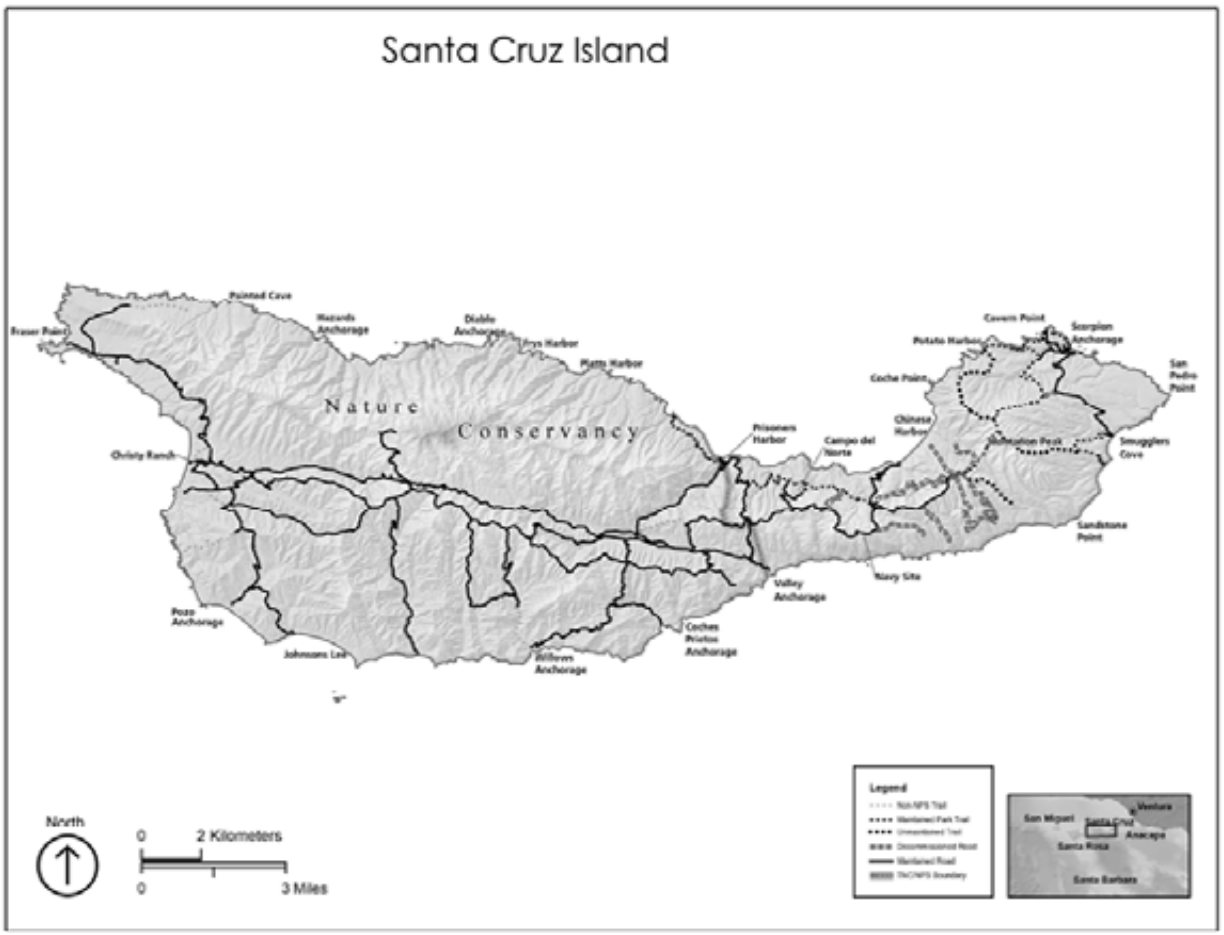
The Five Park Islands

Santa Cruz is the largest island in the northern archipelago of the Channel Islands. It measures about 23.5 miles in length, from east to west, and from 2 to 7 miles in width, north to south. In total area, the island is approximately 95 square miles in size, or just over 60,752 acres. The National Park Service owns 14,764 acres and The Nature Conservancy owns 45,988 acres.[10] The island's shoreline includes rugged cliffs, sea caves, and several anchorages popular with local boaters and fishermen. The bulk of the island, comprising The Nature Conservancy's 76 % of the total area, lies to the west of an isthmus that pinches it into two distinct parts. The remainder, including the isthmus, is the region known as East Santa Cruz Island, which comprises 24% of the island's total area. This peninsula-like extension is itself physically divided from the remainder of the island by an arid range of steep, rocky hills called the Montañon that run perpendicular to the length of the island like a defensive wall. To the east of that lies 10% of the island, which had a different ownership from the rest of the island after the early 20th century. History followed separate courses on either side of this natural barrier, making it a cultural and political barrier as well. Most of East Santa Cruz Island is defined by the broad, steeply-sloping plain that descends from the eastern side of the Montañon. The western side of Santa Cruz Island is topographically more complex, but in general is defined by the Central Valley—the Cañada del Medio—which is oriented along the fault that runs most of the island's length from east to west between parallel mountain ranges. These mountains effectively block out the climatic influence of the surrounding ocean and create a nearly continental zone of warm, relatively dry weather (see plate 1, chapter three).[11]

9 Ana Davidson, Kathryn McEachern, Tim Coonan, Tim Bean, Amon Armstrong, and Brian Hudgens. "Channel Islands National Park: Natural Resource Condition Assessment 2014." (NPS, Fort Collins, Colorado: 2017) 29.

10 Acreage and distance to the mainland figures for the park islands were provided by CINP GIS specialist Rockne Rudolph, December 13, 2018.

11 Allan A. Schoenherr, C. Robert Feldmeth, and Michael J. Emerson. *Natural History of the Islands of California* (Berkeley, CA: University of California Press, 1999) 285-91; Ana Davidson, et al., Natural "Resource Condition Assessment," 124.



Map 1-3. Santa Cruz Island place map.

Source: Cartography by Rockne Rudolph, Channel Islands National Park

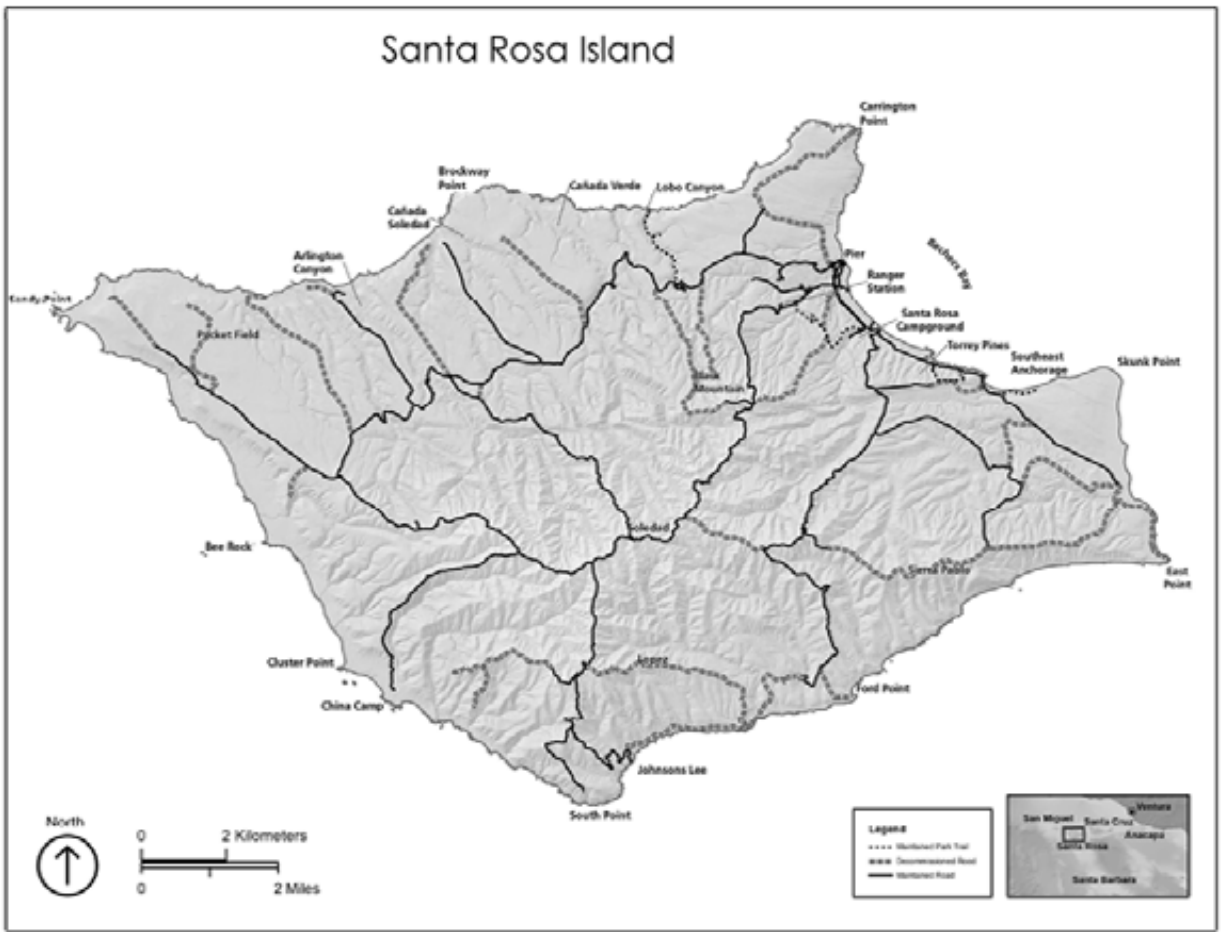
Santa Cruz Island is divided geologically into northern and southern parts by the Santa Cruz Island fault. North of the fault, the island is dominated by volcanic rock. This igneous substrate characterizes both the high mountain range on the north side of the Central Valley as well as the eastern slope of the Montañon and the majority of East Santa Cruz Island. South of the fault, the island is characterized by an assortment of sedimentary or metamorphized sedimentary material ranging from sandstone to schist. Slope, aspect, and these geological distinctions result in profound differences in vegetational patterns between the northern and southern halves of the island. To the north, where volcanic substrates dominate, the soil is able to retain more water and can support a variety of woody species including bishop pine (*Pinus muricata*), ironwood (*Lyonothamnus floribundus* ssp. *asplenifolius*) and various types of oaks (e.g., *Quercus tomentella* and *Q. pacifica*). Chaparral is also more dense on these soils. To the south and within the low-lying isthmus, sedimentary or decomposed metamorphic soils dry out much faster and primarily support grasses and shrubs. But these generalizations understate the overall diversity of Santa Cruz, which represents the greatest topographical and geological complexity of all the Northern

Channel Islands. As a result of this complexity, Santa Cruz Island also hosts the greatest biological diversity within the northern archipelago.[12]

Santa Rosa Island is the second-largest of the Northern Channel Islands. It measures about 10 miles by 15 miles and comprises 83 square miles or 53,364 acres in area. Along the east to west line formed by the four islands of the northern archipelago, Santa Rosa lies between San Miguel, the westernmost of the group, and Santa Cruz, which reaches to within 6 miles on the east. Geologically, much of Santa Rosa Island is composed of sedimentary rock overlain with more recent Pleistocene marine deposits. This friable, easily eroded material gives the island an overall gentle profile with rounded hills and many broad, open plains. The Santa Rosa Island fault runs east-west across the central part of the island, separating it into northern and southern geologic blocks that result in distinct differences between the respective halves of the island. The north, where most of the historic ranch development is located, is relatively open and level, dominated by expansive marine terraces supporting open grassland and low scrub. The most arresting topographical features in this region are the deeply incised stream channels that radiate outward from the center of the island to the coast, where dunes and white sandy beaches descend in a low gradient to the sea. South of the fault line, the topography is more rugged, rising on top of a more durable basement rock of Miocene volcanic origin to heights in excess of 1,500 feet. The highest point on the island, Soledad Peak at 1,574 feet, is located here. Growing in these higher elevations are some of the only substantial stands of trees on the island. These isolated groves of Torrey pine (*Pinus torreyana*), coast live oak (*Quercus agrifolia*), and island oak (*Q. tomentella*) are relicts of a once more-extensive upland forest that survives owing to its ability to condense moisture from the marine fog.[13]

12 Schoenherr et al., *Natural History*, 285-91; Davidson et al., "Natural Resource Condition Assessment," 124.

13 Schoenherr et al., *Natural History*, 274-76; Davidson et al., "Natural Resource Condition Assessment," 154.



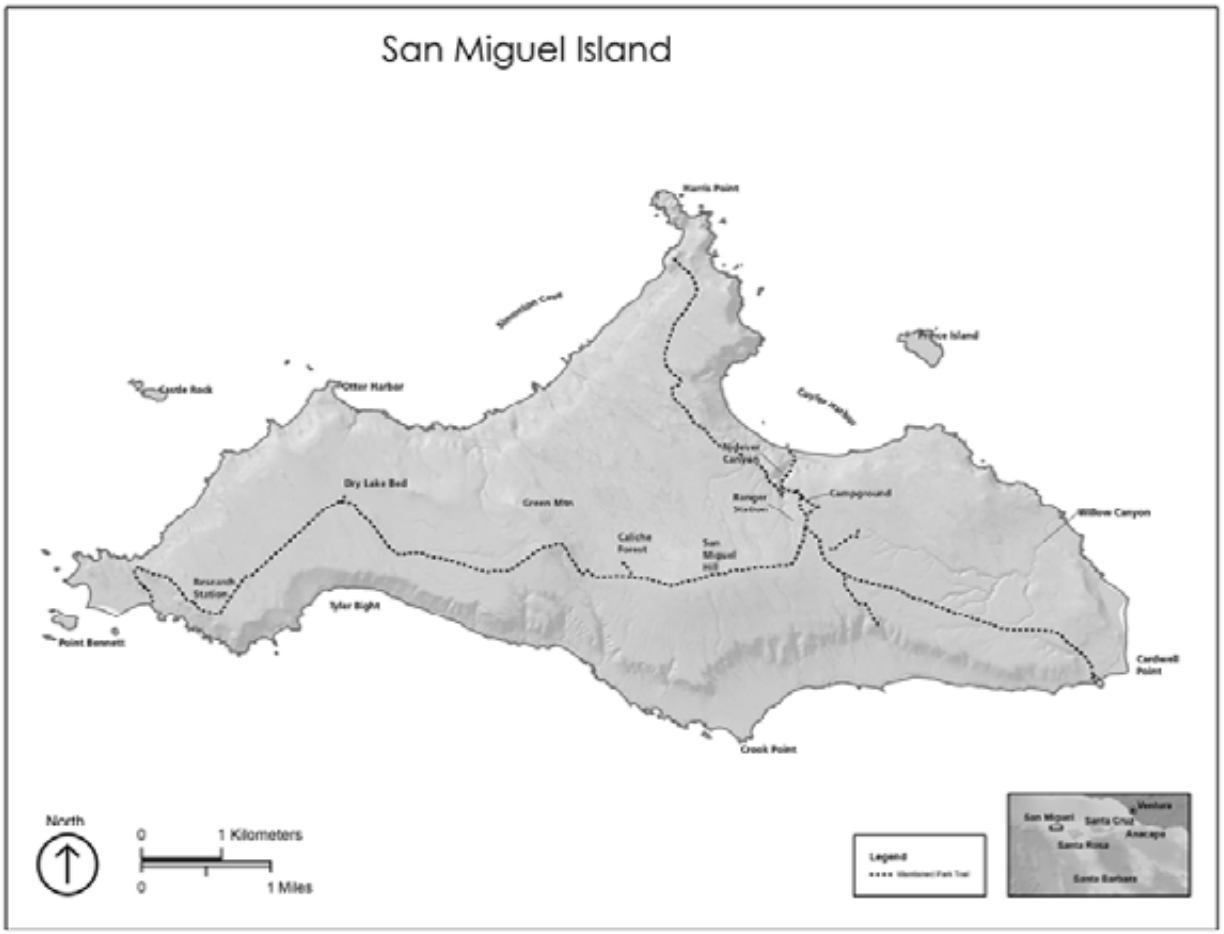
Map 1-4. Santa Rosa Island place map.

Source: Cartography by Rockne Rudolph, Channel Islands National Park

San Miguel Island is a tilted tableland lying at the western end of the northern chain 25.7 miles from the Gaviota Coast to the north and 64 miles from Ventura to the east. It is about 9.3 miles long and 5.0 miles wide with a total land area of just under 15 square miles or 9,536 acres. It is underlain by Cretaceous, Tertiary, and Quaternary marine sediments, volcanic rocks, and eolianite deposits. San Miguel Hill and Green Mountain, at 831 feet and 817 feet respectively, are the highest points in the south-central part of the island. Several short canyons cut through the uplifted terraces running to the ocean north and south of these highlands. It once boasted trees, but sheep grazing in the 19th and early 20th centuries contributed to defoliation over most of the island and exposed it to strong, cool winds sweeping southward around Point Conception. This allowed the formation of extensive dune fields and barren erosion pavement. The predominantly northwestern winds have formed parallel dunes aligned into narrow, northwest-southeast trending ridges and swales across the island. Point Bennett is a sandy flat at the western tip of the island that supports one of the largest pinniped rookeries in the world. Approximately 2,300 feet from the northern side of San Miguel Island near Cuyler Harbor lies Prince Island, a rocky 35-acre isle that is off limits to visitation as a sanctuary for nesting birds.[14]

14 Davidson et al., "Natural Resource Condition Assessment," 191.

One of the notable features of San Miguel Island is a calcium-carbonate cemented soil that formed in this semi-arid climate. Calcium carbonate is derived from the dissolution of shells and shell fragments that have blown across the island from the beaches, especially during the Ice Age when the sea level was much lower. Rain mixed with carbon dioxide in the atmosphere dissolved the shell fragments into a solution that remains in the topsoil. This dissolved calcium carbonate collected and solidified lower in the soil profile where it bound the soil into a hard, cement-like substance called caliche. On San Miguel Island, the deep roots of trees that grew in centuries past either became sheathed in calcium carbonate that remained as a hollow form after decomposition or left molds of the roots that filled with wind-blown sand and calcium carbonate. In both cases, the caliche "forest" of San Miguel Island was created when strong winds blew away the uncemented sandy soil surrounding the caliche casts and root sheaths.[15]



Map 1-5. San Miguel Island place map.

Source: Cartography by Rockne Rudolph, Channel Islands National Park

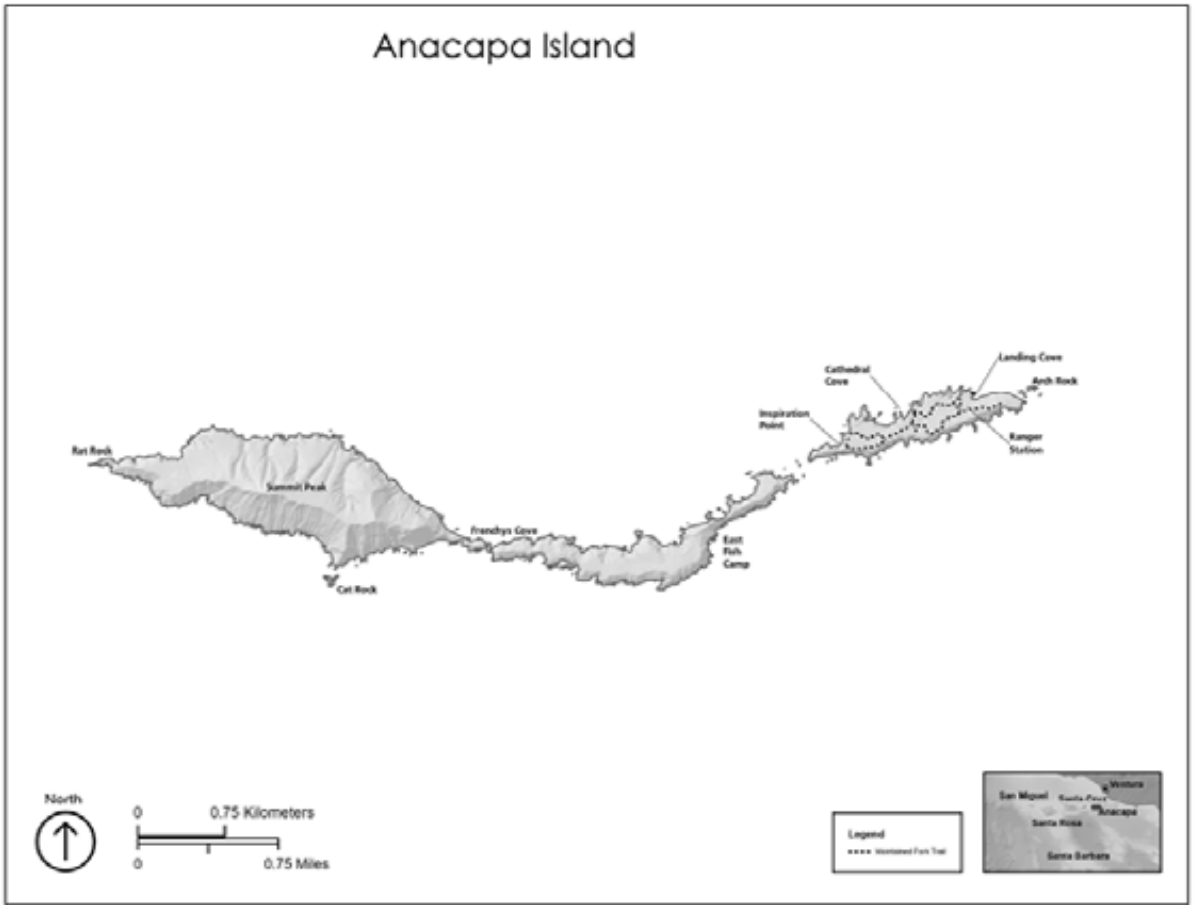
15 CINP. "Geologic Formations."

Figure 1-2. Caliche on San Miguel Island was formed by dissolved calcium carbonate that collected around the roots of early vegetation, hardened, and then became exposed when strong winds blew away the softer material surrounding the cement-like casts.

Source: Photographer and date unknown. CINP Archives, Acc. 305, Cat. 6844/006.

Anacapa Island is an exposed Miocene-era volcanic ridge separated into three linear islets—East, Middle, and West Anacapa. It lies approximately 12 miles off the southern California coast and is the easternmost of the four Northern Channel Islands. The three-part island is approximately 5.0 miles in length but is only 1.1 square miles or nearly 700 acres in area. West Anacapa has a summit elevation of 936 feet, and it is the highest and largest of the three with prominent wave-cut, ancient terraces at elevations of about 600 and 250 feet. The lower terrace forms the summit platforms on the other two islets. Anacapa is composed of a gently north-dipping sequence of volcanic rocks overlain by sedimentary deposits. Vertical cliffs surround the island, except for a lowland at the eastern end of Middle Anacapa, an area known today as Frenchy's Cove. East Anacapa is the most uniformly level of the islets and has seen most of the human development over the last two centuries. Among the most scenic features of Anacapa are wave-cut formations such as arches, stacks, sea caves, surge channels, and blowholes. At the

eastern end of East Anacapa is Arch Rock, a 40-foot-high natural bridge that is the subject of the park's most iconic photograph (see plate 2, chapter three).[16]



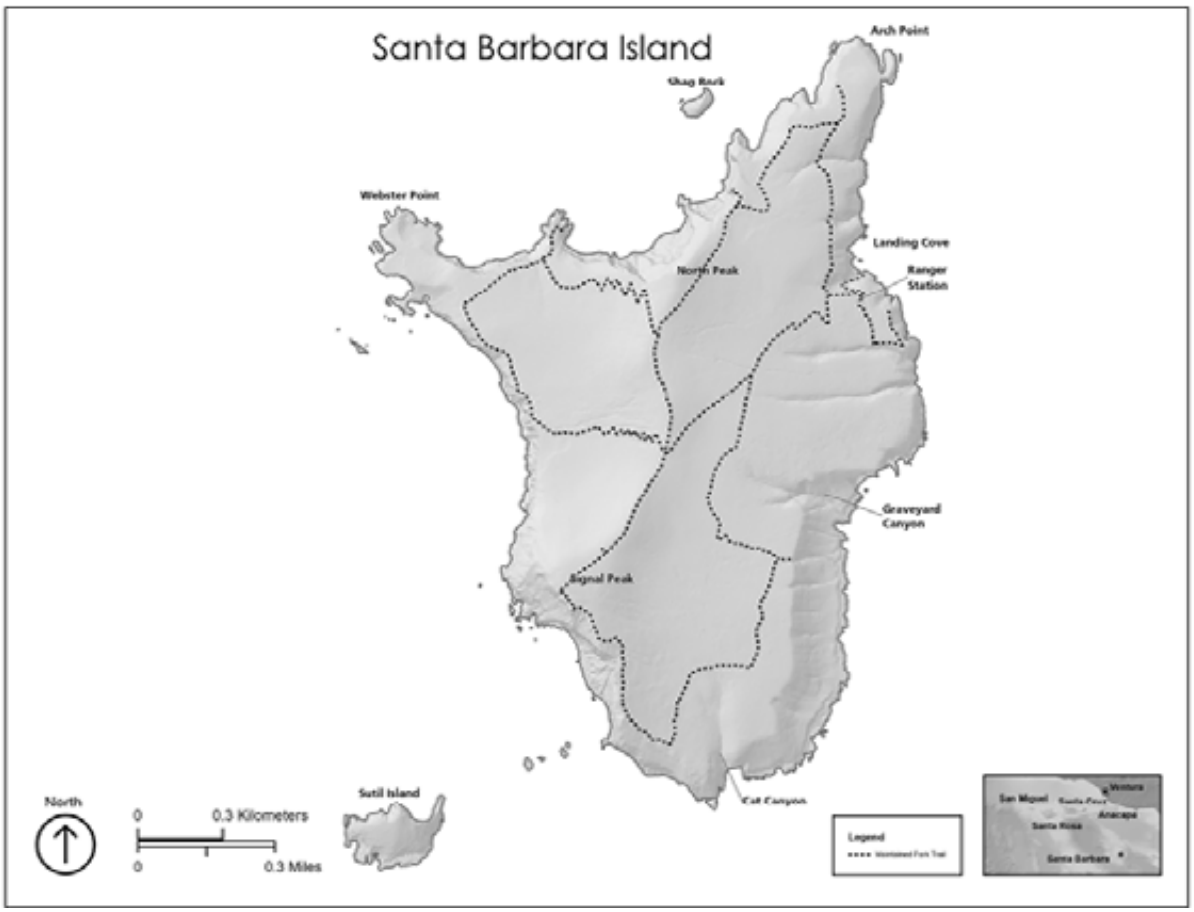
Map 1-6. Anacapa Island place map.

Source: Cartography by Rockne Rudolph, Channel Islands National Park.

Santa Barbara Island, smallest of the eight islands, is slightly over one square mile in area (652 acres). It is approximately 38 miles west of the Palos Verde peninsula on the mainland and 24 miles northeast of Santa Catalina Island, its nearest island neighbor. Like Anacapa, it is composed primarily of basalts that were deposited underwater. The island is the eroded top of a submerged seamount inundated most recently in the late Pleistocene. Most of the island is a northeast-southwest trending central ridge. Near the southern end of the ridge is the highest elevation at 634-foot Signal Hill. The eastern and western portions of the island slope to broad marine terraces. Six different marine terraces lie on the bedrock and those at 30 and 130 feet contain many marine fossils. Elsewhere, vertical ocean cliffs ranging from 200 to 590 feet in height surround the island. Five steep and narrow canyons bisect the eastern and southern terraces, but there are no sources of fresh water on the island.[17]

16 Schoenherr et al., *Natural History*, 304-05; Davidson et al. "Natural Resource Condition Assessment," 97.

17 Davidson et al., "Natural Resource Condition Assessment," 64; Schoenherr et al. *Natural History*, 349.

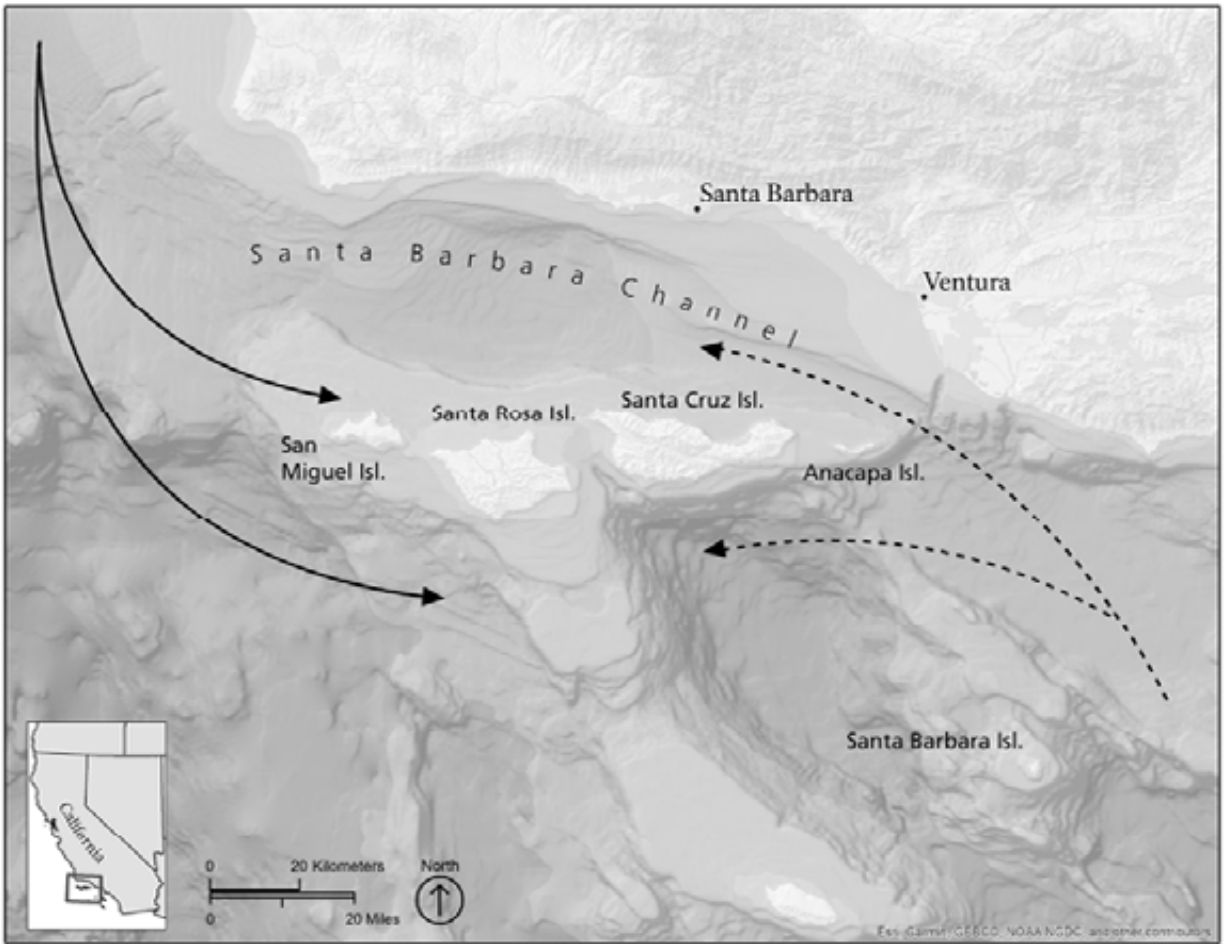


Map 1-7. Santa Barbara Island place map.

Source: Cartography by Rockne Rudolph, Channel Islands National Park.

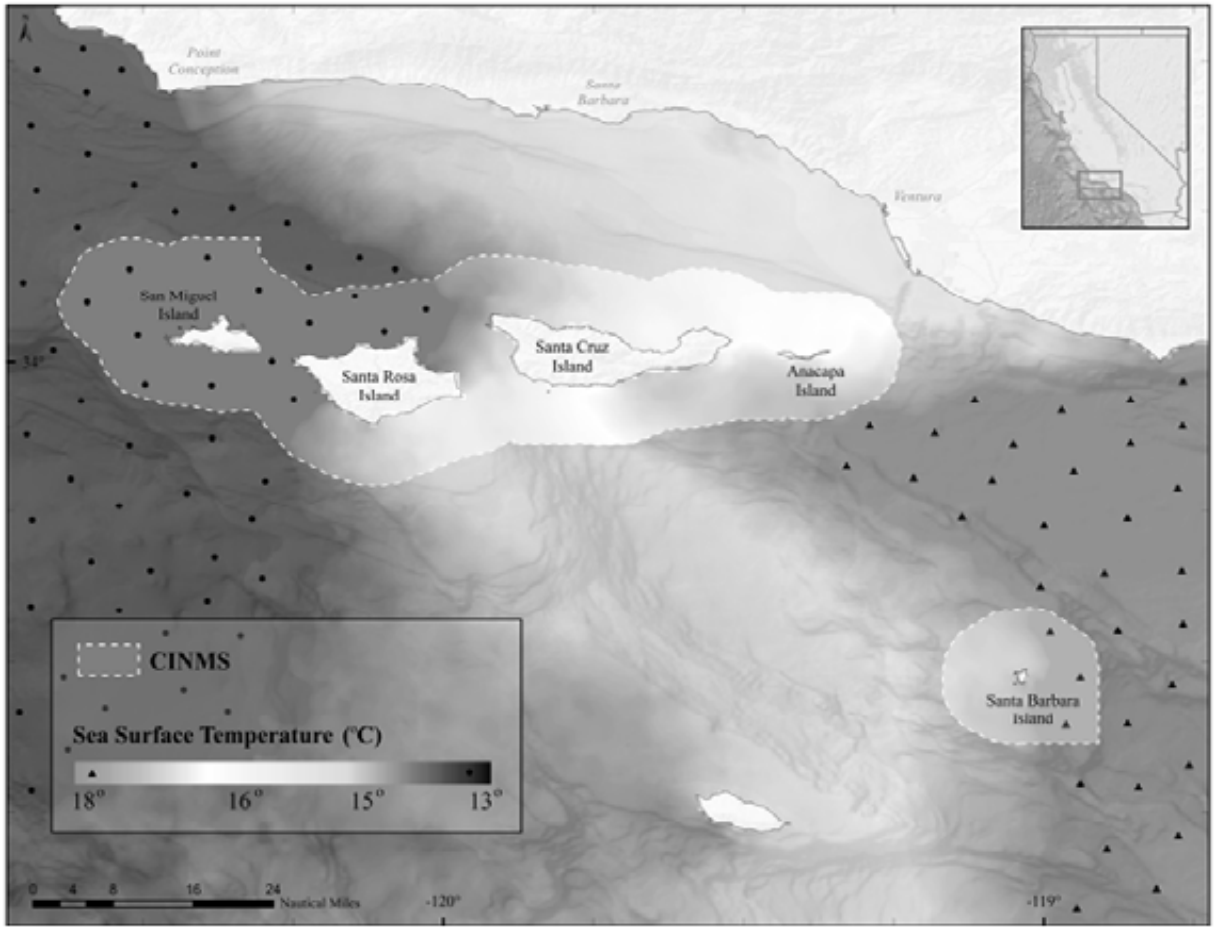
The Oceanic Features

Water circulation around the Channel Islands is complex and highly dynamic. This pattern results from the interaction of large-scale ocean currents, the land-sea boundary, and the basin and ridge topography of the ocean bottom in Southern California. The California Current flows south along the west coast of North America bringing cool water from the northern Pacific Ocean toward the equator. It is strongest during summer, but after passing Point Conception, it bifurcates with its eastern flow going toward the shore where it meets a deeper current of warmer water moving poleward known as the Southern California Countercurrent. The mixture of these waters creates a marine transition zone with a considerable number of small eddies. Near the Northern Channel Islands, these currents create a much larger counter-clockwise gyre called the Santa Barbara Gyre. Similar to a cyclonic system in the atmosphere, it causes upwelling of water from greater depths. That brings the nutrients and conditions for seaweed, phytoplankton, and zooplankton to thrive. It can vary in intensity, seasonally based on current and wind speed. Here, northern and southern species overlap, creating a transition zone between the Oregonian and Californian marine biogeographic provinces supporting a wealth of marine plants and animals, from giant kelp forests and blue whales to tiny crabs. The resulting high seasonal ocean productivity in the Santa Barbara Channel attracts migratory species from across the Pacific Ocean, including pinnipeds, seabirds, and large baleen whales.



Map 1-8. The southward flowing California Current and the northward flowing Southern California Countercurrent create a temperature gradient and upwelling that support a great variety of marine life.

Source: Cartography by Rockne Rudolph, Channel Islands National Park.



Map 1-9. The sea temperature gradient from Santa Barbara Island in the south to San Miguel Island in the north. The boundaries around the islands are those of the Channel Islands National Marine Sanctuary.

Source: Cartography by Rockne Rudolph, Channel Islands National Park

Fully 50% of Channel Islands National Park consists of the waters within one mile of the five islands. A variety of habitats support more biodiversity than the terrestrial portions of the park. Habitats include sandy beaches, rocky shores, kelp forests and rocky reefs, shallow sandy seafloor, and pelagic zones. These habitats are home to a diverse group of algae, plants, invertebrates, fish, marine mammals, and seabirds. Sandy beaches are high-energy habitats covered and uncovered by waves and daily tides. They comprise approximately 20% of the intertidal region of the Northern Channel Islands and support a wide variety of species for foraging, nesting, resting, and breeding. Rocky shores are subject to changing tides and pounding waves. Although similar to the sandy beach habitat, organisms here face more challenging conditions. The nearshore shallow, sandy seafloor habitat extends from the surf to waters that are approximately 100 feet (30 meters) deep. Waves and currents interact with the sandy seafloor in this relatively shallow zone, creating sand waves and ripples and organizing sediment particles into different group sizes such as sand and gravel.[18]

18 CINMS, "Channel Islands National Marine Sanctuary Condition Report 2016, Volume 1," NOAA, Office of National Marine Sanctuaries, 2018, 8-11.

Rocky seafloor habitats including reefs are often characterized by dense patches of kelp, a form of marine algae (see plate 3, chapter three). One-third of Southern California's kelp forests are found in park and Channel Islands Marine Sanctuary waters down to depths of more than 100 feet, with giant kelp (*Macrocystis pyrifera*) being the largest and most prominent species. Pelagic habitat includes the offshore oceanic water around the islands. It is divided into sub-habitats based on depth, each of which has varying degrees of light penetration, temperature, oxygen concentration, and density. Light can penetrate the water's surface down to 650 feet (nearly 200 meters), known as the photic zone. This region of the water column is also called the epipelagic. The base of its food webs are composed almost entirely of phytoplankton—tiny plants that turn sunlight into energy via photosynthesis. Zooplankton (tiny fish larvae and invertebrates) and small schooling fishes such as anchovies and sardines that feed on phytoplankton are a major food source for larger fish, seabirds, and marine mammals. Occasional El Niño events bring warmer water that suppresses the upwelling and decreases the amount of nutrients in the upper level of the water column.[19]

Climate

Channel Islands National Park has a Mediterranean-type climate. This climate type is characterized by cool, wet winters and hot, dry summers. Similar climate regions occur in only four other locations throughout the world including the Mediterranean Sea, central Chile, southwestern Australia, and southwestern South Africa. Global air circulation creates high-pressure cells that form on the western sides of continents around 30 degrees north and south latitudes. These subtropical high-pressure cells are areas of descending, dry air that create desert conditions at the surface. Due to the inclination of the Earth's polar axis and its parallelism as it revolves around the sun, the most direct rays of the sun (a 90-degree (°) angle at the surface) move from the Tropic of Cancer in June to the Tropic of Capricorn in December. These arid warming cells, along with all other belts and cells of pressure and wind, migrate as well. The Mediterranean climate that affects the Channel Islands occurs because the subtropical high-pressure cell moves over the region in the summer. As the sun's direct rays and all the pressure and wind belts move south in the Northern Hemisphere's winter, Southern California is exposed to a belt of westerly winds that bring precipitation off the Pacific Ocean.

The marine location of the Channel Islands moderates temperatures with the result that summers are milder and winters warmer than the interior mainland. December to March are the coolest months with the average mean temperature in January ranging from 53° Fahrenheit (F) to 59°F. July to October are the hottest months with a mean temperature range of 62°–70°. The moist ocean air also brings an increase in nighttime humidity and frequent fog. Diurnal temperature differences are small with cool days and warm nights. Because of their wide spatial distribution and concomitant variation in sea temperatures and wind regimes, significant differences in temperature, fog, and rainfall prevail among the islands. The Channel Islands are generally frost free with the exception of the Central Valley of Santa Cruz Island where its inland location and surrounding high mountains create a microclimate more characteristic of a warm Mediterranean climate such as that found on the mainland away from the immediate coast. This microclimate experiences freezing temperatures most years, higher average summer temperatures, and a greater diurnal temperature variation. Relative humidity in and around the Channel Islands varies diurnally. At night and in the early morning, relative humidity often

19 Ibid.

reaches 100% in the higher elevations. In the afternoon, readings on average reach around 60%.[20]

Approximately 95% of the rainfall in the Channel Islands occurs between November and April. January and February account for nearly half the annual total during an average year. Most rain comes from large storms that last for several days. June, July, and August are the driest months and evaporation exceeds precipitation from April to November. Regional rainfall patterns are highly variable and unpredictable. Long periods may occur between storms in a single season, and substantial variation exists in yearly rainfall totals. Extended multi-year droughts punctuated by moderate to extremely wet years are common. Rainfall patterns also vary geographically within Channel Islands National Park. Annual rainfall ranges from ten inches to 20 inches, depending on elevation, aspect, and topographical features. Fog is a common weather feature, especially at San Miguel and Santa Rosa Islands. It is most common in spring and summer when the fog forms over the cold California Current, flows down the coast with the prevailing northwest wind, and blankets the two western park islands, and occasionally, the western portion of Santa Cruz Island.[21]

Throughout the year, winds are primarily from the northwest, tending to increase throughout daylight hours and becoming easterly at night when the land develops higher air pressure than the sea. Periodically, Southern California experiences high velocity easterly winds, locally called Santa Anas, from the mainland that dramatically increase temperature and decrease humidity. Santa Ana winds result from a regional, large-scale weather pattern caused by the atmospheric pressure differential between a Great Basin high-pressure cell and a Pacific Coast trough of low pressure. They are the primary driver of the wildfire regime in southern and central California shrublands. On the mainland, these winds average 20–25 miles per hour (mph) and maximum gusts over 100 mph have been recorded. The Channel Islands experience Santa Ana winds, but the intensity becomes less severe as the winds move from east to west. Although Santa Ana winds can occur in any month, they predominate from September to December.[22]

One other factor has a powerful effect on the weather and marine conditions around Channel Islands National Park—the periodic appearance of El Niño and La Niña. They are opposite phases of a natural climate pattern across the tropical Pacific Ocean that swings back and forth every three to seven years on average. This shifting pattern is called the El Niño-Southern Oscillation. It can manifest three states—El Niño, Neutral, or La Niña. El Niño (the warm phase) and La Niña (the cool phase) lead to significant differences from the average ocean temperatures, winds, surface pressure, and rainfall across parts of the tropical Pacific. During El Niño, the surface winds across the entire tropical Pacific are weaker than usual. Ocean temperatures in the central and eastern tropical Pacific are warmer than average, and rainfall is below average over Indonesia and above average over the central and eastern Pacific. The frequency and intensity of these events has increased since the early 20th century from 7-year to20-year intervals to 5-year to 7-year intervals with higher El Niño maximum temperatures.

20 Davidson et al., "Natural Resource Condition Assessment," 22-23.

21 Ibid.

22 Ibid.

The significance of this is that higher temperatures contain less nitrogen for kelp growth and reproduction so the forests decline and impact other habitat species.[23]

Flora and Fauna

The California Channel Islands contain extraordinary biological diversity with more unique marine and terrestrial taxa than most temperate islands of the world. Several factors influence the flora and fauna of the islands including climate, soil type, insularity, and millennia of human activity. First, they are islands distant from mainland populations and limited in size and resources. Second, climate change has allowed some relict species to survive when their mainland populations succumbed to harsher conditions and more stringent competition. Third, the convergence of cold and warm water ocean currents draws deep, nutrient-rich waters toward the surface near the Channel Islands sustaining a high biomass and diversity of phytoplankton, zooplankton, marine algae, and the animals that depend on them. Fourth, strong air and water temperature gradients run across the island archipelago driven by these regional currents. Plants and animals to the northwest are exposed to year-round wind and fog while air and water temperatures are higher in the southeastern part of the park. Finally, the separation of the five islands allowed each one to evolve its own subspecies from the mainland species that arrived through time.[24] Channel Islands National Park has unique island endemic species and assemblages include island chaparral, island oak (*Quercus tomentella*), island deer mouse (*Peromyscus maniculatus ssp*.), island night lizard (*Xantusia riversiana*), island fox (*Urocyon littoralis* ssp.), island scrub-jay (*Aphelocoma insularis*) and about 75 other plant taxa. The islands also provide critical habitat for seabird nesting, marine mammals, rare plant communities, and more federally listed species than any park in the contiguous United States.[25]

The park supports two major categories of terrestrial flora—a native one that includes many rare and endemic species and a nonnative one primarily introduced since the 1840s. Because of their isolation, the islands support fewer plant species than grow in areas of similar size on the mainland. About 775 plant taxa, including species, subspecies, varieties, and forms, have been identified in the park, of which about 570 are native and 205 are nonnative (see plates 4a, b, and c, chapter three). Major plant communities include coastal dune, coastal bluff, coastal sage scrub, grasslands, chaparral, island oak woodlands, mixed hardwood woodlands, pine stands, and riparian areas. Currently, the most extensive vegetation communities on the islands are nonnative grassland and coastal sage scrub with significant areas of chaparral on Santa Cruz and Santa Rosa Islands. Various phases of coastal bluff scrub constitute the next largest category. Mixed broadleaf woodland stands, oak woodlands, and pine stands are scattered through the islands on sheltered slopes and canyons, or on ridges exposed to frequent moist fogs. Smaller but no less significant vegetation communities include coastal dune, Baccharis scrub, caliche scrub, and wetlands. In general, the understories of the native scrub communities are invaded by a variety of annual and perennial nonnative grasses and herbs.[26]

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23 NOAA, "What are El Niño and La Niña?" https://www.climate.gov/news-features/understanding-climate/el-ni%C3%B1o-and-la-ni%C3%B1a-frequently-asked-questions. Accessed May 9, 2018; Gary Davis comments to the authors, February 20, 2019.

24 K. T. McEachern et al., "Managed Island Ecosystems," 755-778.

25 NPS, "Channel Islands National Park Final General Management Plan/Wilderness Study/Environmental Impact Statement." April 2015.

26 S. Junak, S. Chaney, R. Philbrick, and R. Clark, *A checklist of vascular plants of Channel Islands National Park*, (Tucson, AZ: Southwest Parks and Monuments Association, 1997).

Some of the island native endemics are relicts, representing species that occurred on the mainland when climates were cooler. Three notable arboreal endemics are Island oak (*Quercus tomentella*), Torrey pine (*Pinus torryeana ssp. insularis*), and island ironwood (*Lyonothamnus floribundus* ssp. *aspleniifolius*). Other island endemics, however, evolved from a mainland ancestor that was successfully established on the islands in the more recent past and adapted to island habitats. Of the approximately 775 plant taxa known to grow in the park, 64 species, subspecies, or varieties are endemic to the park. Of these, 23 are found on only one island. Each of the five islands has endemic species, composing from 4% to 10% of the total taxa. Most of the islands' endemic species are considered rare and 15 are listed federally as threatened or endangered. The coastal bluff, chaparral, coastal sage scrub, and mixed woodland communities support the rarest plant taxa. These communities are remnants of the native vegetation, recovering primarily in inaccessible sections of the islands and surrounded by nonnative grasslands and barren sites.[27]

Islands generally are vulnerable to invasion of nonnative plants. In the case of Channel Islands National Park, many nonnative species have successfully become established and spread rapidly on the islands during the past 150 years. About 197 taxa not native to California have been introduced into the park islands since European contact. Thirteen species are native to the California mainland but have been introduced to the islands. The primary factors responsible for their spread were the destruction of native flora by feral sheep and pigs; uncontrolled grazing; and browsing by introduced cattle, rabbits, burros, horses, deer, and elk. Nonnative species compose about 25% of the park's flora. All of the islands have nonnative species, ranging from 38 species on Santa Barbara to about 170 species on Santa Cruz. Eleven of the latter's 88 plant families and 82 of its 348 plant genera are represented exclusively by nonnative taxa. These nonnative species have changed the overall composition and ground cover of many of the park's vegetation communities and now cover approximately two-thirds of the park's land surface.[28]

Annual grasses have spread over all of the islands and are the most widespread nonnatives. Between 35% and 75% of each island is covered by nonnative grasslands dominated by Mediterranean annual grasses including brome (*Bromus*), barley (*Hordeum*), fescue (*Vulpia*), and oats (*Avena*). Five species of perennial ice plant (*Carpobrotus edulis, C. chilense, Malephora crocea, Mesembryanthemum crystallinum,* and *M. nodiflorum*) are common and cover large areas of Santa Barbara, East Anacapa, and San Miguel Islands in carpet-like mats. Two ice plant species are hard to replace because they accumulate salt in their tissue that is released into the soil upon their death. The salt level of the soil becomes too high to be tolerated by many other plants including most of the native species. Several opportunistic exotic species including bull thistle (*Cirsium vulgare*), Russian thistle (*Salsola iberica*), and spiny cocklebur (*Xanthium spinosum*) rapidly colonize available habitat and form dense monotypic stands, completely excluding native island species.[29]

Several slow-spreading weed species also grow on the islands, including black mustard (*Brassica nigra*), tamarisk (*Tamarix aphylla*), kikuyu grass (*Pennisetum clandestinum*), rice grass (*Piptatherum miliacea*), Bermuda grass (*Cynodon dactylon*) and tall fescue (*Festuca arundinacea*).

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27 Davidson et al., "Natural Resource Condition Assessment," 30.

28 Ibid., T. Handley, D. Rodriguez, J. Yee, and A. K. McEachern, "Draft: Exploring long-term trends in vegetation of Santa Barbara and Santa Rosa Islands, Channel Islands National Park." Unpublished technical report, US Geological Survey, Channel Islands Field Station, Ventura, California, 2013, 275.

29 Davidson et al., "Natural Resource Condition Assessment," 29-32.

These species are very persistent once they become established and can form dense populations. Their seeds are spread through animal feces, mud on vehicle tires, or animals' feet. Kikuyu grass is particularly aggressive and has taken over large areas of wetlands and riparian banks on Santa Cruz. Among the most noticeable to visitors are the thick stands of fennel (*Foeniculum vulgare*), particularly on Santa Cruz Island along Cañada del Puerto Creek from Prisoners Harbor toward the Main Ranch on The Nature Conservancy property and from the Scorpion anchorage area.[30]

Because of their isolation and remoteness, the Channel Islands support fewer native animal species than similar habitats on the mainland. Species that reached the islands could fly, such as birds and bats, swim or raft across the water on debris, or were introduced by aboriginal people. A total of 68 native terrestrial vertebrate species have been recorded in the park, including 3 amphibian, 6 reptile, 2 rodent, 2 carnivore, 11 bat, and 48 breeding landbird species. These numbers do not include migratory birds. Over time, some vertebrate species evolved into distinct subspecies on the islands. For example, the deer mouse and island fox are recognized as distinct subspecies on their respective islands. Twenty-three endemic terrestrial animals in the park are Channel Island subspecies or races, including 11 land birds. Relatively little data exists on the terrestrial invertebrate fauna populations on the islands. However, a 1989 survey reported 137 species of insects and arthropods on Anacapa Island alone.[31]

Park ornithologists have recorded 30 species of shorebirds that use the islands. Santa Rosa Island is a particularly important wintering area and stopover point. Common wintering shorebirds include willet (*Catoptrophorus semipalmatus*), wandering tattler (*Heteroscelus incanus*), whimbrel (*Numenius phaeopus*), black turnstone (*Arenaria melanocephala*), and sanderling (*Calidris alba*). Nine raptor species live in the park and are primarily seen on Santa Cruz and Santa Rosa Islands. Hawks and owls also occur intermittently on Anacapa, San Miguel, and Santa Barbara Islands, which have limited habitat to support them. Several bird species disappeared from the park during the 20th century. The Santa Barbara Island population of the Channel Island song sparrow (*Melospiza melodia graminea*) was driven to extinction due to habitat destruction by introduced rabbits and a 1959 fire as well as direct predation by feral cats. Bald eagles (*Haliaeetus leucocephalus*) and peregrine falcons (*Falco peregrinus*) also formerly bred on the islands but disappeared due to harassment, shooting, egg stealing, and reproductive failure caused by organochlorine pesticides such as DDT. However, both of these species are making a comeback due to reintroduction efforts. Peregrines were reintroduced on the islands in the 1980s, and currently more than 40 active peregrine falcon nests are in the park. Bald eagles were reintroduced on Santa Cruz Island beginning in 2002 and are now successfully nesting on the three northeastern Channel Islands. They prey on aquatic life and carrion. Golden eagles (*Aquila chrysaetos*), which prey on terrestrial species, were live-captured and removed from the park because their predation was responsible for the massive island fox decline from 1994 to 2000. They had moved onto the islands after their mainland populations rebounded in the late 1900s and bald eagles succumbed to DDT, leaving food sources and open nesting areas for the golden eagles.[32]

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30 Ibid.

31 Ibid., 29-42; NPS. "Anacapa Island Restoration Project. Final Environmental Impact Statement," 2000, Stored at CINP Headquarters.

32 Davidson et al., "Natural Resource Condition Assessment," 35-42.

Collectively, the islands constitute a major seabird breeding area in the eastern north Pacific with half of the world's population of ashy storm petrels (*Oceanodroma homochroa*) and western gulls (*Larus occidentalis*), 95% of the US breeding population of Scripps's murrelets (*Synthliboramphus scrippsi*), and the only major breeding population of California brown pelicans (*Pelecanus occidentalis*) in the western United States. The particular association of northern and southern species found here is rare elsewhere in the world. Thirteen species breed on the park's islands, but many more species use its land and waters during migrations and in the winter. Western gulls are the most abundant breeding seabird in the park, with a population estimated at more than 15,000 pairs, followed by Cassin's auklet (*Ptychoramphus aleuticus*) approximately 12,600 pairs, brown pelican (more than 7,000 pairs), Brandt's cormorant (*Phalacrocrax penicillatus*) approximately 4,200 pairs, and Scripps's murrelet (850 to 2,450 pairs). About 3,100 pairs of ashy storm-petrels, 3,200 pairs of pigeon guillemots (*Cepphus columba*), 2,700 pairs of pelagic cormorants (*Phalacrocrax pelagicus*), and 640 pairs of double-crested cormorants (*Phalacrocrax auritus*) are estimated to breed on the islands.[33]

As one of the species listed in the park's enabling legislation, the California subspecies of the brown pelican is of particular interest (see plate 5a, chapter three). This bird was classified as federally endangered in 1970 and as endangered by the State of California in 1971, but was delisted in 2009 after nesting successes on Anacapa Island and a return of the birds to Santa Barbara Island. Each of the park's islands supports seabird colonies, with various species using different islands, but Anacapa, Santa Barbara, and San Miguel Islands, including the latter's two small islets, Prince Island and Castle Rock, are especially important. Another bird that has needed legal protection is the western snowy plover (*Charadrius alexandrinus nivosus*). The park still supports breeding and wintering populations of these birds, which the US Fish and Wildlife Service (USFWS) listed as threatened on March 5, 1993. In the 1990s, Santa Rosa and San Miguel Islands had both breeding and wintering populations, but numbers have declined precipitously.[34]

Bats are the most diverse group of native mammals on the islands, with 11 species recorded just on Santa Cruz Island. Of these species, three are breeding, year-round residents—Townsend's western big-eared bat (*Corynorhinus townsendii townsendii*), pallid bat (*Antrozous pallidus pacificus*), and California myotis (*Myotis californicus caurinus*). The Townsend's western big-eared bat colony on Santa Cruz Island is one of the few remaining breeding colonies of this species in California. Four other terrestrial mammals live on the islands—five subspecies of Channel Islands deer mouse (*Peromyscus maniculatus* ssp.), the Santa Cruz Island harvest mouse (*Reithrodontomys megalotis santacruzae*), the Island spotted skunk (*Spilogale gracilis amphiala*), and the island fox (*Urocyon littoralis*). The latter is a relative of the mainland gray fox and is the largest native land mammal that lives in the park. Three subspecies live in the park—the San Miguel Island fox (*U. l. littoralis*), Santa Rosa Island fox (*U. l. santarosae*), and Santa Cruz Island fox (*U. l. santacruzae*). On March 4, 2004, the three subspecies, along with the subspecies on Santa Catalina Island, were listed as endangered by the USFWS. All three subspecies recovered after an intense program of human management detailed in chapter nine. They were removed from the Federal List of Endangered and Threatened Wildlife in 2016. Island foxes occur in virtually every habitat on the three islands. They feed on a wide variety of plants and animals, including mice, ground-nesting birds, arthropods, and fruits. These foxes are territorial,

33 Ibid.

34 Davidson et al., "Natural Resource Condition Assessment," 35-42, 46-47.

generally monogamous, and breed once a year. Island foxes are relatively inquisitive and docile, and show little fear of humans.[35]

Channel Islands National Park supports a larger and more varied population of pinnipeds (seals and sea lions) than any other area in the world. In Southern California, sea lions breed and pup almost exclusively on the Channel Islands. Four species of pinnipeds breed on the islands, while a fifth, the Guadalupe fur seal (*Arctocephalus townsendii*), hauls-out but rarely breeds in the park. The California sea lion *(Zalophus californianus*) is the most common species and has established breeding colonies or haul-outs on all of the islands. Sea lion numbers have generally increased throughout the Channel Islands since the 1970s, though the population experienced low reproductive success throughout the Channel Islands in recent years. Northern elephant seals (*Mirounga angustirostris*) are the second most common species and breed or haul-out on all of the islands. Elephant seals were virtually extirpated from the park islands due to human hunting, but survived on Isla Guadalupe in Mexico. After cessation of the hunting, their numbers in the park increased steadily from the 1930s. Their range has expanded to additional beaches on San Miguel Island, where isolated Point Bennett provides the largest area for a rookery, as well as on Santa Rosa Island.

Harbor seals (*Phoca vitulina*) are also common and breed on all of the islands. Harbor seal numbers on the Channel Islands have fluctuated between 2,000 to 4,000 over the past 25 years. Northern fur seals (*Callorhinus ursinus*) number around 8,000 only on San Miguel Island. The Guadalupe fur seal, a federal- and state-threatened species, occurs in very small numbers, usually from one to three individuals, and occasionally breed on San Miguel Island. The Steller sea lion (*Eumetopias jubatus*) formerly bred on San Miguel Island and Santa Rosa Island, and possibly Santa Cruz Island. Steller sea lions appear to have largely abandoned these and other southern haul-outs, perhaps due to warming ocean temperatures favoring California sea lions, although a few individuals have been recently spotted on San Miguel Island. On land, all of the park's pinnipeds are sensitive to human disturbance. In particular, at the sight of a human or in response to auditory stimuli (e.g., sonic booms or overflights), California sea lions may panic and attempt to reach the water. Depending on the intensity of disturbance, they may startle to the point of a massive stampede, which can result in the crushing and/or abandonment of newborn pups as well as injuries to other animals.[36]

The five park islands also support three amphibian, three snake, and four lizard species. Of these, the most threatened is the island night lizard (*Xantusia riversiana*). It is an endemic Channel Islands reptile that only occurs on Santa Barbara Island in the park as well as on San Nicolas and San Clemente Islands. They are the most morphologically distinct of the endemic vertebrates on the Channel Islands, indicating they have been isolated from the mainland for a long time. On Santa Barbara Island they are most prevalent in rocky or brush areas in the canyons and on some of the sea cliffs on the south side of Signal Peak. On August 11, 1977, the USFWS listed the island night lizard as a threatened species because of its restricted range and low population levels on Santa Barbara and San Nicolas Islands. Their populations were thought to have been reduced by farming and grazing, fire, and the introduction of nonnative animals and plants. However, recent studies indicate a much higher population on Santa Barbara Island

35 Ibid, 37.

36 Ibid., 41-42.

after the eradication of rabbits—the USFWS removed the species from the endangered and threatened species list on May 1, 2014.[37]

The abundance and distribution of marine life in the waters of the park and the surrounding Channel Islands National Marine Sanctuary are driven by the mixing of the warm Southern California Countercurrent from the south and the cooler California Current from the north creating the localized gyres (a large system of circulating ocean currents) and upwelling patterns. The varied oceanographic conditions and the transition between them, the diversity of habitats ranging from sheltered bays to exposed open coasts, and the relatively undisturbed location of the islands support a wide variety of invertebrates, fish, sea turtles, seaweed, marine plants, marine mammals, and seabirds. For example, the sea surrounding the islands supports at least 492 species of algae and 4 species of seagrasses known to occur from among the 673 total species described for all of California.

The total number of invertebrate species in southern California may be in excess of 5,000, not including micro-invertebrates. Common and ecologically important invertebrates in the park and in the Channel Islands National Marine Sanctuary that surrounds it include abalone, anemones, barnacles, clams, corals, crabs, jellyfish, mussels, nudibranchs, prawns, scallops, sea cucumbers, sea slugs, sea stars, sea urchins, snails, spiny lobster, squid, tunicates, and worms. In addition, more than 400 species of fish have been documented in the island region. The number constitutes a greater species richness than nearby coastal regions along the southern California mainland and is related to the presence or absence of kelp and substrate topography. Some of the common nearshore kelp bed- and rocky reef-associated fishes in the sanctuary include giant sea bass (*Stereolepis gigas*), garibaldi (*Hypsypops rubicundus*), and California sheephead (*Semicossyphus pulcher*). Migratory fish species include California barracuda, Pacific bonito, white sea bass, yellowtail, albacore, blue shark, jack mackerel, northern anchovy, opah, Pacific mackerel, Pacific northern bluefin tuna, Pacific sardine, shortfin mako shark, skipjack tuna, striped marlin, swordfish, thresher shark, white shark, and yellowfin tuna.[38]

HUMANS ARRIVE ON THE ISLANDS

Humans have been present on the Northern Channel Islands for at least 13,000 years, with evidence of recurrent occupation dating from at least 7,500 years ago. The oldest radiocarbon date from the islands is from a femur found by archeologist Philip Orr in 1959 on Santa Rosa Island. Known as "Arlington Man," the bone dates to 13,000 years BP. Nearly 100 sites dating from 8,000 to 12,000 years BP have been found on Santa Cruz, Santa Rosa, and San Miguel Islands. Prior to 10,000 years ago, these islands were all part of Santarosae. With 70% of that ancient island now underwater, many more sites certainly lie below the waters that surround the Northern Channel Islands today. Other sites are well distributed through the pre-contact and

37 Ibid., US Fish and Wildlife Service, "Final rule: Removing the island night lizard from the Federal list of endangered and threatened wildlife." *Federal Register* Vol. 79, No. 62, April 1, 2014, 18190-18210.

38 CINMS, "Channel Islands National Marine Sanctuary Condition Report 2016, Volume 1," NOAA, Office of National Marine Sanctuaries, 2018, 32-35.

contact periods providing evidence of cultural and technological evolution and maritime adaptations.[39]

These early inhabitants of the islands were ancestors of the modern Chumash, first encountered by European mariners in 1542 with the expedition of Juan Rodríguez Cabrillo. At the time of European contact, the Chumash were the most populous of California's hunter-gatherer societies, occupying a large area along the northern half of the Southern California Bight, including much of the Transverse Ranges, and north of Point Conception to the region around Morro Bay. Although mainland Chumash inhabited inland as well as coastal sites, most were oriented to the sea and highly dependent on marine resources. Coastal communities possessed a sophisticated boat-building technology that allowed them to take advantage of off-shore resources as well as to maintain close communication and trade with neighboring Island Chumash. As early as 1,500 years ago, they constructed wooden plank canoes called *tomols* for fishing and harvesting in the seas around the islands. An extensive system of exchange and marriage alliance connected both mainland and island villages, as well as coastal and inland villages on the mainland, and may have supported a broader regional organization. As a whole, Chumash society was characterized by a high level of political and economic complexity. This was likely the result of centuries, if not millennia, of cultural evolution within broadly the same geographic area. Some archeologists consider the Chumash, at the advent of the historic period, to have been among the most complex hunter-gatherer societies in the world.[40]

The Island Chumash developed a trading economy based on manufacturing and exporting shell beads that were used as currency and importing mainland products such as grass seeds, acorns, roots, and bows and arrows. They mined the islands' rich deposits of chert to make microblades for drilling holes in the shell beads. Fish bones recovered from archeological deposits at Daisy Cave on San Miguel Island indicate that "early Channel Islanders fished relatively intensively in a variety of habitats using a number of distinct technologies," including the earliest known uses of boats, hook-and-line technology, and basketry found on the Pacific Coast of North America. The islands' archeological record has produced "some of the oldest evidence of maritime adaptations in the New World," according to archeologist Jon Erlandson, who, with his associates, have dated fish bones found at Daisy Cave at up to 11,500 years BP.[41]

Only three of the five national park islands supported full-time occupancy with permanent settlements. Anacapa and Santa Barbara Islands, lacking fresh water and other necessary resources, were used seasonally for food gathering and toolmaking. San Miguel, Santa Rosa, and Santa Cruz Islands supported relatively large numbers of residents with numerous villages and seasonal camps. An estimated 3,000 Island Chumash lived on the three islands in the 17th and

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39 Michael A. Glassow, ed., Channel Islands Archaeological Overview and Assessment (NPS, December 2010) 11-17; Dewey Livingston, "Island Legacies: A History of the Islands Within Channel Islands National Park," NPS Historic Resource Study, 2016, 9-11.

40 Douglas J. Kennett, *The Island Chumash: Behavioral Ecology of a Maritime Society* (Berkeley: University of California Press, 2005); Michael A. Glassow et al., "Prehistory of the Northern California Bight and the Adjacent Transverse Ranges," in Terry L. Jones and Kathryn A. Klar, eds., *California Prehistory: Colonization, Culture, and Complexity* (Lanham, MD: AltaMira Press, 2007); Jon M. Erlandson, "The Search for Early Shell Middens on San Miguel Island, California," Research Report submitted to The Foundation for the Exploration and Research on Cultural Origins and National Park Service/Channel Islands National Park, September 15, 2001, 1; Lynn H. Gamble, "Archaeological Evidence for the Origin of the Plank Canoe in North America" *American Antiquity*, 67(2), 2002, 301-315.

41 Torben C. Rick, Jon M. Erlandson and René L. Vellanoweth, "Paleocoastal Marine Fishing on the Pacific Coast of the Americas: Perspectives from Daisy Cave, California" in *American Antiquity*, 66(4), 2001, 595-613; Erlandson, "Early Shell Middens," 1.

18th centuries although the numbers fluctuated. Following missionization, the populations declined dramatically. Ethnographic researchers have concluded:

> *At the time of European arrival, the basic sociopolitical units consisted of towns that were largely independent from one another. Sometimes a particularly effective chief would have some form of authority over several towns, but he was by no means all-powerful. While the basis for his leadership may partly have been determined by birth, it was more dependent on personality, the ability to control certain economic activities, and success in creation of alliances with other chiefs.*[42]

Evidence suggests that in some cases several island towns were organized as "federations." Ethnohistorian John R. Johnson wrote that the island towns "were to some extent linked to mainland society through a pan-tribal political group known as the '*antap* culture.'" The amount of trade and communication between the islands and the mainland documented through archeological work proves that some intensive interaction would have been necessary.[43]

The first descriptions of Chumash culture and their physical setting arrived in Spain with European explorers such as Juan Rodríguez Cabrillo, Sebastian Rodríguez Cermeño, and Sebastian Vizcaíno. All three briefly recorded contacts with the Island Chumash, but more than 250 years passed before the islanders were removed from the islands making way for settlement of the islands by European Americans. Although these early contacts with European mariners influenced life among the Chumash and their neighbors through the introduction of new trade goods and exotic diseases, the decisive impact came with permanent Spanish settlement along the mainland coast after 1769. In 1782, Franciscan priests established Mission San Buenaventura just across the Santa Barbara Channel from the islands. Over the next 12 years, they founded three more missions in mainland Chumash territory—Santa Barbara in 1786, La Purísima in 1788, and Santa Inés in 1804. The purpose of these missions was the conversion of the native peoples to Christianity and their acculturation to Spanish lifeways so that they might be incorporated into the colonial society of New Spain. The Spanish briefly considered establishing a mission on Santa Cruz Island in 1805 to convert the Island Chumash, but did not do so. Over the next two decades, all of the remaining Island Chumash were removed to the mainland missions, spurred in part by a major earthquake that strongly affected the islands. By the late 1820s the Northern Channel Islands were essentially vacant.[44]

EXPLOITATION BY EUROPEANS AND AMERICANS

When presented with an island, a typical European American response has been to put domesticated animals on it. In some cases, this was done to prevent human starvation in the event of a shipwreck. More often it was done to make money. When presented with marine resources that have sustained small populations of natives for centuries, the typical response has been to apply superior technology to maximize harvests and trade. In both cases, significant

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42 Sally McLendon and John R. Johnson "Establishing the Ethnohistorical Basis for Cultural Affiliation in the Areas Formerly Controlled by Chumash Peoples and Presently Under National Park Service Stewardship." National Park Service, Hunter College at CUNY, and Santa Barbara Museum of Natural History, 1996, 432.

43 Ibid., Livingston, "Island Legacies," 10.

44 Livingston, "Island Legacies," 9-11.

environmental impacts follow. When the Europeans encountered the Channel Islands, these two processes began. They rapidly intensified once Americans took political control.

Juan Rodríguez Cabrillo, the European discoverer of Alta California, happened upon the Channel Islands in 1542, an encounter that became fateful for Spain and fatal for him. Cabrillo arrived in the Americas in 1520 and participated in conquests by Cortez in Mexico and other conquistadors in Central America, subsequently. Two decades after Cabrillo's arrival, Spanish Viceroy Antonio de Mendoza decided to send two exploratory expeditions into the Pacific—one to head west and the other north up the coast. In 1542, Mendoza appointed Cabrillo to take charge of the northern expedition "to discover the coast of New Spain." After making the first landfall in what would become the western United States at modern San Diego, the small fleet explored the Channel Islands giving a confusing mix of redundant names to most of them. The Spaniards met Chumash on both the islands and the mainland, admired their *tomols*, and soon began fighting with some of them. During a melee, possibly on San Miguel Island, Cabrillo suffered an injury that soon turned gangrenous. He died days later and allegedly was buried on one of the islands. Much later, a stone monument was erected on San Miguel although his burial spot remains uncertain.[45]

Figure 1-3. The monument to Juan Rodriguez Cabrillo was erected in the early 20th century despite continuing uncertainty about his place of burial.

Source: Photograph by L. Dilsaver, October 2017.

45 Ibid., 11-13.

Russian incursions from its new territory in Alaska brought the Spanish into California beginning in 1769. The Russians and their Aleut hunters focused on the teeming populations of otters and fur seals and for the next eight decades marine resources drew the attention of Spanish, Mexican, English, and American seafarers. The Spanish tried to protect their interests, regulate against killing otter pups, and keep out poachers but they had neither the boats nor the men to patrol the islands. Soon, English and American companies and individuals outfitted their ships with experienced Aleut hunters from the northwest numbering up to 100 per ship. The Aleuts, with their watertight sea otter kayaks, harvested 3,000 to 5,000 pelts per trip. Each sea otter pelt could bring up to $100 in the Chinese market. San Miguel and Santa Barbara Islands had the greatest concentrations of otters. Captain Winship of the *O'Cain* employed enough Aleuts in 1811 to hunt the islands and then sell 3,952 pelts in Canton. Inevitably, the otter boom waned by the 1820s, and only a few men could support themselves from the sea otter trade by 1870. By then, scarcity had pushed the price up to $475 on the London market.[46]

In 1821, Mexico gained its independence from Spain and soon thereafter secularized the missions. The new, young country allowed some foreigners to own land if they became citizens and converted to Catholicism. Some Americans deserted from visiting ships and took advantage of the opportunity. Not long thereafter, Yankee frontiersmen came to California by land and joined the profitable hunts upon arrival at the coast. Trapper Isaac Galbraith accompanied Jedediah Smith and his party from Utah in 1826. Their arrival badly rattled the Mexican authorities who contentedly had assumed that the United States was way too far away to threaten its northern outpost. Galbraith was the first of the "reckless breed" to switch from trapping beavers to chasing otters. Another was George Nidever who was part of the Joseph Walker party that made the first east to west crossing of the Sierra Nevada by white Americans in 1833. Nidever, who had trapped beaver, fought Indians, and shot game for food and grizzly bears for fun, soon moved to the Santa Barbara area. There he became a proficient otter hunter in the Channel Islands under the license of Mexican citizen William Goodwin Dana. In the 1850s, Nidever constructed an adobe house on San Miguel Island and participated in early sheep ranching on that island.[47]

Other marine mammals drew the attention of the hunters as well. The European Americans quickly learned of the commercial possibilities of pinnipeds. In the early 1800s, they began to stalk not only fur seals for their rich pelts but elephant seals to render oil from their layers of fat. Fur seals were slaughtered by the thousands in California between 1790 and 1835. Whalers first took elephant seals in the 1880s. When the gray whales were gone in the summer, whalers went after elephant seals for oil. Sea lions supplied several useful products including a silky skin for luxury items and the sex organs of bulls, which Chinese used as a cure for impotence. During the late 1870s, oil from sea lion blubber sold for $0.50 per gallon. Pinnipeds were typically killed by clubbing them on the head or shooting the larger ones. Later, the Channel Islands became a prime source of sea lions for circuses and zoos around the world.[48]

The Chinese were the first outsiders to develop a commercial abalone fishing industry in the latter half of the 19th century. They had come originally to seek gold during the rush to California in the 1850s. Thereafter, many labored to build the western portion of the

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46 Adele Ogden, *The California Sea Otter Trade 1784-1848* (Berkeley: The University of California Press, 1941) 8.

47 Livingston, "Island Legacies," 19-20.

48 Ibid., 20-22.

transcontinental railroad. Prior to passage of the Chinese Exclusion Act in 1882, many stayed in California although a brisk business of sending the deceased back to China for burial arose. By 1853, they began harvesting abalone to feed the California contingent in San Francisco and from there started shipping them to the home country. Chinese merchants operating in Santa Barbara's Chinatown formed several companies that enjoyed financial success. Some Chinese built camps on the islands where they would fish from skiffs, prying the mollusks from the rocks of shallow waters in great quantity. The Chinese abalone industry peaked on Anacapa, Santa Cruz, Santa Rosa, and San Miguel Islands from 1892 to 1895. In 1900, however, local counties passed ordinances that made it illegal to gather abalones from less than 20 feet (6.1 meters) of water. This curtailed the operation in the 20th century although Japanese divers replaced the Chinese by securing the abalone from deeper waters.[49]

Two other marine resources drew Americans to the waters around the Channel Islands—fishing and harvesting kelp. The extraordinary richness of the fish species and populations around the Northern Channel Islands, particularly near the Santa Barbara Gyre, sustained a huge fishing fleet based not only at Ventura and Santa Barbara but from Los Angeles and Long Beach as well. Even boats from San Diego frequently visited the area. Commercial operations dominated fishing prior to World War II, but after it ended recreational fishing underwent a meteoric rise in popularity. Beginning in the late 19th century, several companies harvested kelp from near the five future park islands. Threshing through the forests of kelp like giant lawnmowers, large ships gathered tons of kelp used for fertilizer, consumption, and myriad other purposes. Because the plant grows so fast, nobody in those early days thought there would ever be a problem with its distribution and abundance.[50]

During the Mexican period, which ended in 1848 with the Treaty of Guadalupe-Hidalgo, the authorities granted lands on Santa Rosa and Santa Cruz Islands to worthy citizens.[51] Development of island ranches, focused on sheep and cattle, began in the 1840s and increased after 1850. The largest of the islands, Santa Cruz, produced wool, meat, wine, and grapes, nuts, and grains from a famously complex family operation. Santa Rosa Island supported a huge sheep ranch until the turn of the century and then operated for almost one hundred years as one of the most unique cattle ranches in the state. The three smaller islands in the park supported isolated sheep ranches with tenant families as caretakers. What differentiated these enterprises from those on the mainland was the need to transport everything by boat. This factor kept the ranches operating somewhat in 19th-century fashion, unable to afford some of the new techniques and equipment that evolved on their mainland counterparts.

The dominant agricultural use of the Channel Islands was sheep ranching. Sheep came to Southern California with the Spanish missions. Although an inferior breed (called *churro*) compared to the fine sheep that would later serve the market, the herds thrived in the vast rangelands of the state. The California gold rush caused a boom in sheep ranching as the need for meat and wool mushroomed. The Channel Islands contributed in this era, as Santa Cruz Island and its smaller neighbors became sheep ranges specializing in fine breeds such as the

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49 CINP, "Chinese Abalone Fishermen," https://www.nps.gov/chis/learn/historyculture/abalone-fishing.htm Accessed October 17, 2018; Gary Davis comments to Lary Dilsaver, February 20, 2019.

50 W. L. Scofield, "History of Kelp Harvesting in California," *California Fish and Game*, 45(3) July 1959, 135-157.

51 The Treaty of Guadalupe-Hidalgo ended the war between Mexico and the United States that began in 1846 with American admission of Texas to the Union. The treaty, signed on February 2, 1848, cost Mexico more than 525,000 square miles of territory including the state of California.

French and Spanish Merino. The Santa Cruz Island ranch imported the best breeds of sheep from Europe and the East Coast and became known as California's finest sheep operation. With their palate more varied than cattle, sheep were less susceptible to feed shortages and they didn't require as much water to survive. Serious droughts occurred, especially in the 1870s, during which thousands of sheep were slaughtered to prevent overgrazing and starvation among the sheep. All that could be salvaged from one of these unfortunate episodes was wool and the oil gleaned from boiling their fat. Contemporary chroniclers recorded erosion and denudation that showed that overpopulation of sheep was the norm and some of these periodic kills came too late to protect the islands' native flora. A more insidious threat came from nonnative plants brought in by the animals or in their feed. Many forage plants were imports dating back to the time of Spanish occupation.

Cattle also arrived in the New World with the earliest explorers and settlers. The first herds came to California with the Mission padres and their sheep. The establishment of the ranchos of Southern California, much of it on lands transferred from the missions, led to the stocking of vast cattle ranches. The major uses for cattle during the Mexican period was for hides, which were dried and sent east by ship for tanning, and tallow, a crudely made fat product with many uses. Much maritime activity occurred off the coast of California in the hide and tallow trade, although none of these activities was recorded on the Channel Islands. It is possible that Alpheus Thompson raised the first cattle on Santa Rosa Island for this purpose.[52] The gold rush briefly caused a huge increase in cattle ranching as the price for a head jumped from $4 or $5 to more than $100. The old California ranchos became American ranches as the arrival of the railroads opened new markets including the stockyards at Chicago and Kansas City. But competition from Mexico and Texas, plus the drought of 1862–1864 badly damaged the industry. On the islands, ranchers took on more sheep and the cattle industry did not recover until the early 20th century.[53]

PRE-PARK DEVELOPMENT OF THE INDIVIDUAL ISLANDS

Each of the islands played a part in the development of marine and terrestrial industries. Otter and seal hunting, fishing, shellfish harvesting, and kelp production brought hundreds of ships and boats to the islands. The California gold rush and subsequent growth of commerce in the state increased the number of passenger and commercial vessels that passed through the Santa Barbara Channel. The islands often presented a navigation hazard, as evidenced by the large number of shipwrecks documented in the waters around the islands.

Investigators in both cultural and natural science disciplines have studied the islands for more than a century and have made discoveries of local, national, and international importance. The country's military forces have exploited the islands' strategic locations off the coast of the most populated region on the West Coast, developing sites for defense, communications, and testing. The islands' current management as public and private reserves is a significant departure from earlier land uses and provides environmental protection and valuable opportunities for research. While stock raising, fishing, and hunting dominated the uses of the islands, each had

52 Paul I. Wellman, *The Trampling Herd* (Philadelphia/New York: J. B. Lippincott & Co., 1939), 13-58; Livingston, "Island Legacies," 25-27.

53 Wellman, *The Trampling Herd*, 278-281, 285, 293-295.

its individual and very different history, predicated on the environmental differences and unique human activities on each island.

Anacapa Island—History

Anacapa Island saw a limited amount of exploitation due to its lack of water, ruggedness, and government ownership, yet a few people and plenty of sheep inhabited it for decades. No grants were made by the Spanish and Mexican governments, so Anacapa Island passed directly to the United States government following the 1848 Treaty of Guadalupe-Hidalgo. In 1853, the US Coast and Geodetic Survey noted the remains of a small house at Frenchy's Cove, the only practical landing site on the group of three islets. It was probably a seasonal or temporary structure built by fishermen or seal hunters rather than a permanently occupied domicile. In 1854, President Franklin Pierce reserved the entire island for lighthouse purposes. A bit of confusion ensued when President Andrew Johnson reserved 20 acres on the island for lighthouse purposes in 1867. The second order did not relinquish any of the land reserved by the first order, so the Lighthouse Bureau continued to claim the entire island.[54]

During the rest of the 19th century, a variety of entrepreneurs sought ways to make a living from the resources of Anacapa Island. In 1890, the *Ventura Free Press* reported that a party of boaters visited the island, encountering an encampment of Chinese abalone hunters and fishermen. H. Bay Webster hunted seals on Anacapa for five years beginning in 1890. He claimed that there had been only one shack on the island in 1884, that of a Chinese fisherman. For a brief time, egg hunters scaled the steep cliffs where they found a bonanza of seabird eggs to sell in San Francisco. Perhaps, the oddest excitement was raised in 1873 and again in 1895 with reports of gold on the island in richer deposits than those in California's Mother Lode region. Although some locals on the mainland hurried to buy mining equipment, nothing came of these mythical "strikes."[55]

As a way to support commerce and increase revenues, the US government typically leased lands that possessed potential for agriculture and exploitation, as long as the use didn't interfere with the government's activities on the property. In 1902, the Bureau of Lighthouses awarded Louis LeMesnager a five-year lease to graze sheep. The Bureau was required by law to offer such leases for its properties on various islands. Santa Barbara Island and San Miguel Island also had this requirement. At the end of LeMesnager's five years, fisherman and seal hunter H. Bay Webster secured the lease and renewed it in 1912. Webster lived on Santa Barbara Island but sheep needed only occasional attention on an island so he did not need to live on Anacapa. After a decade of operation, Webster was outbid for the Anacapa lease by Ira Eaton who also held the lease for 10 years and continued sheep grazing. On April 1, 1932, C. Fay Chaffee secured the lease and planned to sublease the island to a company with plans to stock it with game birds for hunting. Nothing came of this, and it does not appear that Chaffee made any use of the island.[56]

Ranchers used Middle Anacapa for the main headquarters of their ranch operations. Sheep survived on Anacapa year-round, but marginally. The island is lush after winter rains, but arid and lacking in forage the rest of the year. To improve forage, sheep ranchers introduced exotic

54 Lois Weinman Roberts, "Historic Resource Study Channel Islands National Monument and San Miguel Island California," NPS Contract No. CX-2000-7-0065, May 1979, 92-99.

55 Ibid., Livingston, "Island Legacies," 787.

56 Livingston, "Island Legacies," 787-93.

grasses. They also periodically carried out a *matanza* wherein hundreds of sheep were killed in order to save the rest from starvation. By the 1930s, the sheep had destroyed most of the edible native plants useful to them and had begun to consumet San Miguel Island milk vetch (*Astragalus miguelensis*). This endemic plant poisoned many of the sheep, and along with Chaffee's inaction, all but ended commercial grazing on the island. Belated recovery of the island's flora then began. Congress ended the Lighthouse Bureau's lease program with Public Law 74-351 on August 27, 1935. In the maelstrom of changes in federal policy that accompanied the Roosevelt administration's response to the Great Depression, streamlining property management seemed like a good idea.[57]

Once Frenchy's Cove lost its function as the sheep manager's center, the man after whom it is named arrived in 1928. Raymond "Frenchy" LeDreau, an emigrant from Brittany, France, took up residence. A well-educated widower, LeDreau lived the life of a hermit fishing, gathering abalone and lobster, and trading his catches for supplies and liquor with passing boat crews. He remained a jovial and gracious character despite his penchant for solitude and hosted many visitors. When the National Park Service came to Anacapa Island in 1939, he so impressed Victor Cahalane, acting chief of the Wildlife Division, that he recommended that LeDreau be given informal caretaker status. He fulfilled this role for the park service until an injury forced him to leave the island in the 1950s.[58]

Figure 1-4. Frenchy LeDreau on Anacapa Island.

Source: Photographer and date unknown. CINP Archives, Cat. 35821/#06.

57 Ibid., Public Law 74-351 (49 Stat. 885).

58 Livingston, "Island Legacies," 793-97.

Figure 1-5. Frenchy's structures at the cove on Middle Anacapa Islet named for him.

Source: Photographer and date unknown. CINP Archives, Acc. 217, Cat. 3191.

The wreck of the *Winfield Scott* in 1853 directed attention to the need for a navigational aid on Anacapa Island almost as soon as it had become United States property. Yet the expense of building a lighthouse on the island delayed appropriations for nearly half a century. Shipwrecks continued to occur and hastily built light stations on the mainland were clearly inadequate. The Bureau of Lighthouses finally authorized a temporary acetylene light for the south side of the easterly entrance to the Santa Barbara Channel on October 17, 1911. The Bureau erected a 50-foot skeleton metal tower on the tip of East Anacapa some 50 feet east of the present structure. The light was on a 10-second cycle and the island still had no fog signal. On February 28, 1921, the tank steamer *Liebre* grounded on the east end of Anacapa Island directly under the light and sustained heavy damage. In 1928, the Bureau finally allotted funds for fog signal and radio apparatus for Anacapa as well as boats and miscellaneous improvements for the water supply, sanitation, and grounds improvement. Then began an ugly sequence of bids for construction, failures, legal actions, delays, and new bids. Eventually the completed light station held a light tower, a powerhouse, an oil house, a fog signal building, four lighthouse keepers' dwellings, one tank house, and one general service building. A large part of the problems that beset construction was the lack of a safe landing site on Anacapa Island. Everything had to be hoisted up the side of a 250-foot cliff from Landing Cove below. Problems and occasional danger landing people and equipment still exist at the site to this day. Keeper Frederick Cobb lit the

Anacapa Light for the first time on March 25, 1932. It was the last new light station established on the California coast.[59]

Santa Barbara—History

Santa Barbara Island, the smallest at one square mile, also had a limited use except for lighthouse purposes. No grants were made during the Spanish and Mexican periods, so the island passed directly to the US government following the Treaty of Guadalupe-Hidalgo. Author Thomas Jefferson Farnham provided the earliest known account of Santa Barbara Island. After sailing along the California coast in 1839–1840 he wrote a book, *Travels in California*, in which he mentioned the island and its immediate neighbors and noted that they were all "densely populated with goats."[60] Whether he saw goats, sheep, or a mirage is uncertain. Bureau of Lighthouses Superintendent H. W. Rhodes visited the Channel Islands in 1888 and presciently noted that their resources could be developed for future generations in anticipation of the day when little public land would be left for recreational purposes.[61] H. Bay Webster was the first recorded occupant of the island in the 1890s. He built a cabin on the northeast end of the island, from which the name Webster Point is taken. On August 24, 1905, President Theodore Roosevelt issued an executive order that reserved Santa Barbara Island for lighthouse purposes. The order allowed for leases of five-year duration to interested members of the public. The following year, J. G. Howland obtained the first lease. He also leased San Nicolas Island under similar terms on August 1, 1909. Howland attempted to sublease to a pearl farmer called C. B. Linton, though this was forbidden under the Department of Commerce terms of lease. The two men fell out over accusations of sheep killing on San Nicolas Island and their plans for Santa Barbara Island ended.[62]

On June 16, 1914, Alvin Hyder obtained the second five-year lease. He moved to the island with his wife, son Denton (Buster), and a daughter. Two brothers, Clarence and Cleve with their families, soon joined Alvin. The Hyders lived on Santa Barbara Island for nine years, with as many as 17 people on their island ranch. They brought about 300 sheep to Santa Barbara Island in 1915, the first known sheep to graze there in many years. The Hyders also farmed barley, potatoes, and various garden vegetables with limited success. Following an early 20th-century trend, they brought hundreds of black and white Belgian hares to the island to raise. The plan was to turn them loose, capture them later, and sell the meat and pelts. At the time, feral cats roamed the island and feasted on the rabbits. The Hyders responded by poisoning cats with strychnine-laced rabbit carcasses. Hogs brought to the island also died from eating the poisoned rabbits. Years later, son "Buster" Hyder brought hunters to the island to shoot rabbits. "They'd go up and they'd come back with just tons of rabbits. Freeze them all down and eat them later."[63] The Hyders' lease expired in 1919 and was not renewed, but the family remained on the island until 1922.

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59 Ibid., 797-807.

60 Thomas Jefferson Farnham, *Travels in California* (Oakland: Biobooks, 1947), 199.

61 Roberts, "Historic Resource Study," 87.

62 Livingston, "Island Legacies," 841-43.

63 Livingston, "Island Legacies," 849; In various interviews and accounts the number of rabbits imported has ranged from 800 to 4,000. The lower number is more likely.

Abbot Kinney was awarded the next five-year lease. He represented the Venice Chamber of Commerce, which wanted to develop a public resort and marine biology station on the island. Such development, however, depended on obtaining a longer-term lease, which could only be granted legislatively. A bill was submitted to the US House, but being poorly designed, it quickly failed. The Chamber of Commerce then withdrew its proposal. In 1920, Kinney failed to pay his rent, and his lease was cancelled.[64] The public resort plan does indicate that recreational use of the Channel Islands was a recognized option fully supported by Lighthouse Bureau Superintendent Rhodes. A period of official inactivity began during which rum running was a known activity around the islands. Prohibition made smuggling a lucrative sideline and old residents on Anacapa such as Frenchy LeDreau and Bay Webster were said to be involved. Arthur M. McLellan and Harry H. Cupit were awarded the fourth and final lease to the island on December 1, 1929. They intended to use it for grazing, though they never followed through and their lease was cancelled on February 6, 1932. It was at this time that Superintendent Rhodes first requested permission to transfer authority for both Anacapa and Santa Barbara Islands to the National Park Service.[65]

As early as 1853, government officials recommended Santa Barbara Island for lighthouse purposes. Nevertheless, it took 75 years to get a navigational aid built on the island. Only at the urging of the Lighthouse Board in 1903 did the government take any action. President Theodore Roosevelt reserved Santa Barbara Island for lighthouse purposes on August 24, 1905. Once again, however, other priorities focused attention on adding lighthouses to the mainland coast. It was not until 1928 that the Commissioner of Lighthouses approved a light for Santa Barbara Island and the Bureau allotted funds in connection with the allocation to Anacapa Island. In 1929, one light beacon went into operation at the northern point of the island and five years later a second one was built on the southern side. When Santa Barbara Island became part of Channel Islands National Monument in 1938, two parcels of land and right of ingress and egress were retained for lighthouse purposes—16 acres on the north parcel and 41 acres on the south parcel.[66]

Human enterprise had a dramatic impact on the flora of Santa Barbara Island. Several unique plant species, such as Santa Cruz Island buckwheat (*Eriogonum arborescens*), Creamcups *(Platystemon californicus*), and a species of *Dudleya* suffered grazing by sheep and feral rabbits to the brink of extinction. According to botanist Ralph Philbrick, between 1940 and 1970, the native California seablite (*Suaeda californica*), Giant Coreopsis (*Coreopsis gigantea*) and others have been drastically reduced and largely replaced by the invasive exotic ice plant (*Mesembryanthemum crystallinum*) and annual grasses dominated by barley grass *Hordeum* and wild oats *Avena*.[67]

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64 According to Roberts, "Historic Resource Study," 85, Kinney then went to Pelican Cove on SCI, where he ran a casino with an illegal bar and cabins. Margaret Eaton makes no mention of this, but perhaps it occurred after she had left Ira. Roberts's source is an interview with Don Meadows, Feb. 21, 1978.

65 Livingston, "Island Legacies," 852.

66 Ibid., 852-55.

67 Ralph N. Philbrick, "The Plants of Santa Barbara Island," *Madroño*, 21 (5), part 2, 1972, 329, 353.

San Miguel Island—History

San Miguel Island, being the farthest to the west and featuring the harshest climate, saw its vegetation stripped by decades of sheep grazing to the point of being called a huge sand dune. George Nidever purchased a schooner in San Francisco in early 1850 and "bought out the interest of a man by the name of Bruce" who had been grazing sheep on the windswept western island. He imported 45 head of sheep, 17 head of cattle, 2 hogs and 7 horses. By 1862, he had 6,000 sheep, 200 head of cattle, 100 hogs and 32 horses on the island, totals far higher than the carrying capacity of the island. He later told an interviewer that the severe drought in 1863 and 1864 wiped out "5,000 sheep, 180 cattle, a few hogs, and 30 horses." Much of the damage to the island followed the drought as Nidever attempted to salvage his ranch. His sons grew tired of life on the island and urged him to sell it and return to the mainland. In 1870, he sold his interest to two brothers, Hiram and Warren Mills, for $10,000. Eight years after leaving the island, Nidever related that he had been told that the island "is almost covered with sand."[68]

The unidentified Bruce and then Nidever established sheep ranching on the island, but it was their successors who transformed it into an industry. The Mills brothers and their Pacific Wool Growing Company grazed their sheep on the island's grasses and packed wool for sale to mainland markets for 17 years. They built wood frame buildings in the canyon above Cuyler Harbor. Theirs was the first organized business enterprise on the island. Visitors to the island in the 1870s described a sheep operation out of control as the animals grazed the vegetation down to the sand. In 1874, William Dall of the Coast Survey visited the island and wrote, "there are no young trees . . . as the omnipresent sheep crop every green thing within their reach to the ground." US Coast Survey employee and archeologist Paul Schumacher spent four days on the island and wrote about the starving sheep, calling the island "a barren lump of sand."[69]

In November of 1887, Captain William G. Waters bought a half interest in the island and the livestock that were on it for $10,000 from Warren Mills who told Waters that he was tired of the island. As of January 1888, the ranch supported 4,000 sheep, 30 head of cows and horses, and a number of pigs, turkeys, and chickens. For five years Waters held only half interest in the island and its animals but acquired full possession through a series of confusing sales and transfers in 1892. The year 1896 brought conflict between Waters and federal government surveyors. The self-proclaimed "King of San Miguel Island" seized on newspaper reports speculating that because San Miguel Island had not been mentioned in the 1848 Treaty of Guadalupe-Hidalgo, it was not a United States possession. The government decided to investigate and assembled a party of surveyors to map the island but Waters threatened to shoot the "invaders." A US marshal and a party of 22 armed men obtained orders from President Grover Cleveland to admit the survey party. On July 7, 1896, Waters met the marshal on the beach, read the order, and capitulated. He and his sheep occupied the island for almost 30 years, frequently seeking and gaining press coverage for his activities and social relations. On January 9, 1917, 80-year old Waters entered into a contract with Robert L. Brooks and J. R. Moore to sublet his operation. For $30,000, Brooks and Moore received his livestock including some 2,500 sheep and some

68 William Henry Ellison, ed., *The Life and Adventures of George Nidever* [1802-1883] (Santa Barbara and Tucson: McNally & Loftin, Publishers and Southwest Parks and Monuments Association, 1984 [reprint of edition, Berkeley: University of California Press, 1937]), 32, 43.

69 Livingston, "Island Legacies," 53-54.

cattle, improvements including the house and barns, and his lease that was valid until November of 1921. Waters died from a stroke three and one-half months later.[70]

Robert Brooks held a government lease for another 30 years. The Lighthouse Bureau, as the actual owners of the island, initially objected to the Waters-Brooks-Moore contract and threatened to advertise for bids, but Brooks argued that he was investing in a worthy use of the island so they let him keep it for a $200-per-year fee. Brooks attempted to get a long-term lease from the Lighthouse Bureau but never succeeded. Other bidders challenged his claims but he convinced the government officials that he could and would improve the forage on the island, particularly a 5,000-acre patch of sand that spanned the island. In 1927, Brooks tried to buy the island. He reversed his usual optimistic tone and described the island's drawbacks including tons of sand blown by the prevailing westerly winds onto the north shore and a poisonous weed that killed the sheep. By way of an answer, in August 1928 the government extended his lease that was due to expire in two years to March 21, 1935.[71]

Herbert Lester, a wartime friend of Brooks, moved to the island in 1929 as manager and soon made it his goal to acquire the island lease for himself. He came to an arrangement with Brooks through which he would draw a small salary but accumulate capital at the same time to buy the assets. However, the Great Depression destroyed that plan. Lester brought a bride to San Miguel and the two had a pair of daughters. They became a "Swiss Family Robinson" saga for the local and eventually national media. They continued sheep ranching until 1942 but problems soon loomed over their idyllic residence. President Franklin D. Roosevelt had transferred the control and jurisdiction of San Miguel Island and Prince Island to the Secretary of the Navy for naval purposes on November 7, 1934. The following year, Robert Brooks signed a lease with the navy at $600 a year. The navy, reacting to criticism from scientists and other observers for the overgrazing on the island, placed a limit of 1,200 on the number of sheep grazing there in 1938 and subsequently reduced it to 1,000. But it was World War II that ended the Lester story. The navy stationed three sailors on the island who had nowhere to go but the Lester household. Friction with them led Lester to frustration, an unfortunate woodchopping accident, and deep depression. On June 18, 1942, Lester wrote a note to his wife explaining where searchers could find his body and committed suicide. Robert Brooks arrived on the island that day and led the search party to recover the body. Lester was buried on the island, his family left for the mainland, and Brooks looked for a way to continue his fading operation.[72]

70 Ibid., 54-55.

71 Ibid., 55-68.

72 Ibid., 69-81.

Figure 1-6. Lester house on SMI.

Source: CINP Archives, Acc. 217, Cat. 2002

In 1948, the navy revoked its lease and ordered Brooks to remove his sheep and other property from the island within 72 hours so that the island could be used for practice bombing and guided missile tests. Brooks had to leave over 500 sheep and 4 horses behind. He later sued the government for his losses but the suit never went to court. In June 1950, he got permission to return and remove his stock. A *Los Angeles Times* reporter described how four men and four horses were working against a deadline to herd "the unshorn critters through the rugged barrancas of the mist-muddied terrain into corrals and onto barges headed for the mainland." A few feral sheep were finally eradicated in the 1960s. The armaments subsequently dumped on or fired at the island by the military made its later use by the park difficult, but had less impact on its biotic recovery.[73]

73 Ibid., 81-82.

Santa Cruz Island—History

Not only is Santa Cruz Island the largest and most biologically diverse of the islands, it also has the most complicated history. The island had been granted by the Mexican government to prominent *ranchero* Andrés Castillero in 1839, only 17 years after the last indigenous Chumash had been removed from the island, as a reward for his assistance in brokering a peace with the rebellious Alta California Governor Juan Bautista Alvarado. It remained in Castillero's ownership until 1857, when he sold it to William E. Barron, an American immigrant. Barron, who was a son of one of the principal partners in the New Almaden mercury mines near San Jose, developed ranches in the island's Central Valley and at the eastern and western ends, and introduced sheep during his period of ownership.[74] In 1869, William Barron sold the island to a group of 10 San Francisco investors, one of whom was French immigrant Justinian Caire. These men established the Santa Cruz Island Company (SCIC) to manage the island. By 1887, the company, as well as the island, had become the sole property of Justinian Caire.[75]

Caire's management of Santa Cruz Island was a model of enlightened, scientific farming for that period, and he was enormously successful. He developed the island ranch on the principle of diversity, producing a variety of high-quality products ranging from beef cattle and dairy to wine, but sheep constituted the mainstay of his operation. After the collapse of the California cattle industry with the drought of 1864, sheep raising was an appealing proposition for western ranchers. The new trend was encouraged by an increased demand for wool as cotton became scarce during the Civil War. The sheep industry boomed in California between 1865 and the end of the century. Taking advantage of this opportunity, Caire supplemented and improved William Barron's original herd of sheep with purebred Rambouillet Merino, which proliferated rapidly on the predator-free island, numbering over 50,000 by 1890. Caire also invested heavily in the physical infrastructure of the ranch, and most of the surviving buildings on the island today date from the years of his management, including the main ranch complex and the masonry or adobe structures at Prisoners Harbor and Scorpion, Smugglers, and Christy Ranches.[76]

74 William was the son of Eustace Barron, who, with Alexander Forbes, owned Barron, Forbes & Co. that managed the New Almaden Mine. The island was managed by Dr. James Barron Shaw for the next 16 years. Shaw was the first to introduce sheep to the island, starting with a herd of approximately 200.

75 Livingston, "Island Legacies," 408, 438-50; Frederick C. Chiles, *California's Channel Islands: A History* (Norman, OK: University of Oklahoma Press, 2015), 103-57; John Gherini. *Santa Cruz Island: A History of Conflict and Diversity* (Spokane, WA: The Arthur C. Clarke Company, 1997) 38-62.

76 Gherini, *Santa Cruz Island*, 63-115.

Figure 1-7. Justinian Caire and his family shortly before his death in 1897 and the rancorous division of the island among his heirs.

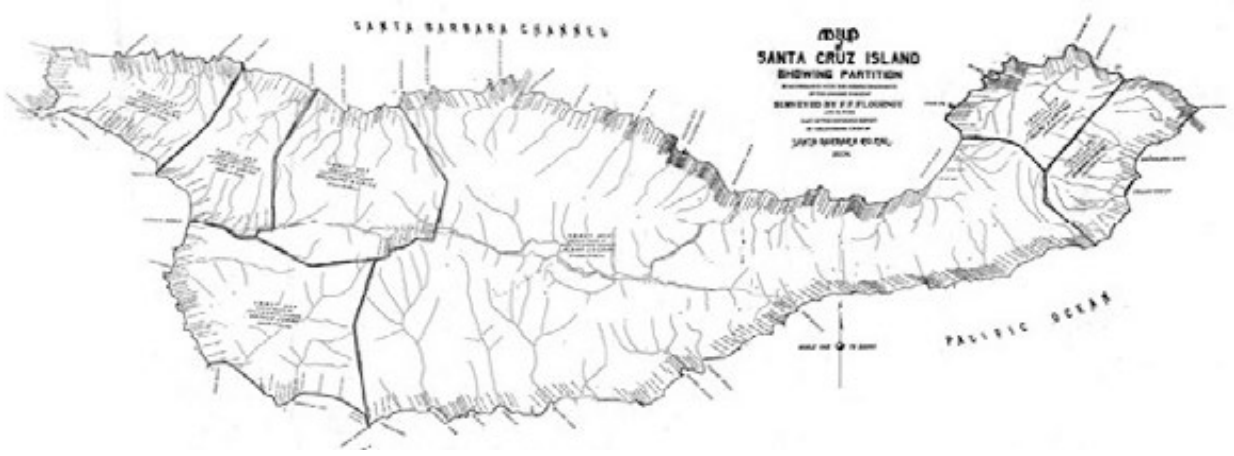
Source: Courtesy of John Gherini.

In 1897, Justinian Caire died. He had transferred his shares in both the San Francisco company and the Santa Cruz Island Company to his wife Albina shortly before his death. This was the beginning of the end for the agricultural venture that Caire had so carefully and laboriously put together. At various times, Albina Caire gifted shares in the companies to her children. As a result, the two Caire sons and the two unmarried daughters received more shares than the two married daughters. The latter two of the Caire daughters married—Amelie to Pietro Rossi and Aglae to Gofreddo Capuccio.

In 1911, the Santa Cruz Island Company failed to pay its annual license tax, which led to the forfeiture of their corporate charter. Taking advantage of this forfeiture, Amelie and Pietro Rossi's son Edmund sued for liquidation of the company's assets, requesting their distribution among all of the family members. Edmund was represented in this suit by his brother-in-law, attorney Ambrose Gherini, who had recently married Edmund's sister Maria Rossi. In 1913, the courts ruled in Edmund's favor, but the rest of the family appealed, with the exception only of Amelie's sister, Aglae Caire Capuccio. The subsequent litigation created an emotional rift in the family that never healed. Later that same year, Albina Caire disinherited both Amelie and Aglae. The litigation continued for the remainder of the decade, deepening animosities among the respective factions. But in 1921, the courts finally upheld Edmund Rossi's suit and agreed to divide Justinian Caire's property equally. The courts appointed surveyor Frank Flournoy to survey the island and divide it into seven parcels of comparable value. The Rossi and Capuccio families were given parcels six and seven on East Santa Cruz Island. Although these parcels were

smaller than those given to the other family members on the remaining western portion of the island, Flournoy justified his decision by pointing out that parcels six and seven were the most valuable in terms of their economic potential. Probably just as important, however, was the fact that East Santa Cruz Island was separated from the main mass of the island by the Montañon. This was a useful barrier to place between the hostile factions of the deeply divided family. The partition became legally effective at the end of 1925.[77]

The following year, Aglae Capuccio sold her share to her sister Amelie's children. Goffredo Capuccio, Amelie, and her husband Pietro Rossi had all died by this time. Of the children, Maria and her husband, attorney Ambrose Gherini, were the most enthusiastic about the island ranch, and Ambrose assumed responsibility for managing it, although as a lawyer he lacked any experience in this line of work. On the advice of the Caire family's former ranch manager, Clifford McElrath, Gherini made the decision to focus exclusively on sheep, abandoning the more diversified livestock and agricultural operation that Justinian Caire had established.[78] By 1932, when litigation between the various Caire family heirs was finally concluded and the terms of the estate settled, East Santa Cruz Island was owned exclusively by the Gherinis, who had incrementally bought out the various interests held by the other children of Amelie Rossi.[79] Ambrose Gherini maintained the ranch as a supplement to his principal business, which remained law, and he continued to reside at his house in Hillsborough near San Francisco, only visiting the island during the summer. During these annual excursions he would oversee the management of the ranch, and his four children—two sons and two daughters—would help with the labor. When Ambrose Gherini was no longer able to manage the ranch himself, his older son, Pier Gherini, took over. Later Francis Gherini, Pier's younger brother, took over from him. The two daughters, Marie Gherini Ringrose and Ilda Gherini McGinness, became increasingly less involved in the ranch after they reached adulthood and married.



Map 1-10. The division of Caire's Santa Cruz Island estate resulted in seven distinct tracts. The two easternmost tracts bordered by the Montañon became known as East Santa Cruz Island. The Park Service acquired this portion of the island in 1997 from the Gherini family, descendants of Justinian Caire.

Source: Courtesy of John Gherini.

77 Ibid., 117-60; Livingston, "Island Legacies," 557-73.

78 Gherini, *Santa Cruz Island*, 187.

79 Ibid., 181-91.

Following the partition of the Caire family's property in 1925, all of the area west of the Montañon, including the isthmus, remained with Justinian Caire's widow, Albina, her two sons and two unmarried daughters. These five parcels comprised approximately 90% of the island's total area and included the Central Valley with the main ranch complex. In 1937, the surviving heirs sold all of these parcels as a single unit to Los Angeles businessman Edwin L. Stanton, who transformed the old Caire ranch into a successful beef cattle operation. Upon the death of Edwin Stanton, his son Carey took over management of the ranch.[80]

Santa Rosa Island—History

Like Santa Cruz Island, Santa Rosa Island was also given as a land grant. The Mexican government hoped to encourage settlement of the island by Mexican citizens and thereby discourage foreign nationals who were using it as a base of operations for the illegal hunting of fur seals and otters. But Carlos and Jose Antonio Carrillo, the two brothers who were awarded the grant in 1839, never occupied Santa Rosa Island or made any improvements on it. In 1843, they sold their grant to American immigrants John C. Jones and Alpheus B. Thompson, who had both married daughters of Carlos Carrillo. Ironically, both men had come to Mexican California to engage in smuggling and otter hunting. The Americans developed the earliest commercial livestock operation on Santa Rosa Island, importing 270 head of cattle, 51 ewes, 2 rams, and 9 horses in 1844. These were the first exotic animals known to have been introduced. Over the following decade, Thompson and his heirs built the ranch into a successful beef cattle operation. The complex ownership of the operation on Santa Rosa Island degenerated into a stream of lawsuits beginning in 1852. By the end of the decade, they burdened the ranch with financial liabilities that ultimately proved insurmountable.[81]

One of the beneficiaries of this legal quagmire was Thomas Wallace More who incrementally purchased livestock and assets starting in June 1858. Through the 1860s, Thomas, Alexander, and Henry More tightened their grip as the Carrillo heirs gave in and sold their segments. By 1870, the Mores had total legal control of the island. Like Justinian Caire on Santa Cruz Island, they settled on sheep in response to the growing demand for wool and mutton. During the More years on Santa Rosa Island, stocking rates reached their highest levels ever, with as many as 60,000 sheep grazing on the island in a given year. The impact of these numbers was exacerbated by the manner in which sheep typically graze, tearing grasses and other palatable forbs from the ground with their closely arranged incisors, unlike cattle and related bovine species that simply crop the vegetation without pulling it from the earth. The inevitable denudation of the landscape resulted in a decline of forage species on Santa Rosa Island and substantial erosion of the soil needed to support them. After nearly a half-century of sheep grazing under the ambitious stocking regime of the More family, the environmental degradation of Santa Rosa Island had become apparent even to outside observers and the need for a more sustainable management practice was increasingly obvious.[82]

It was within this context that Walter Vail first considered taking over the debt-ridden assets of the More family at the turn of the 20th century. Vail was already an established cattleman in the rural west and a prominent business leader in urban Southern California. When he first

80 Ibid., 161-64.

81 Livingston, "Island Legacies," 146-54.

82 Ibid., 152-59.

considered acquiring Santa Rosa Island, he approached this prospect not only with the experience of years of livestock raising on drought-ridden, marginal lands, but with the monetary capital to subsidize a difficult operation. Vail recognized that Santa Rosa Island held economic potential, provided it was managed properly, and accordingly bought the island from the failing More estate in 1901. Over the ensuing years, he and his business partner John Vickers gradually phased out the Mores' sheep and replaced them with high-quality beef cattle. The last of the sheep, which had by now become feral, were rounded up and slaughtered in the 1950s. When Walter Vail died in a streetcar accident in 1906, his family assumed primary responsibility for the cattle operation on Santa Rosa Island over the next two generations, with the Vickers acting as silent partners. Walter Vail's eldest son, Nathan Russell (commonly known as "N. R.") managed the island ranch from 1908 until his death by heart attack in 1943. N.R.'s younger brother Ed then took over as ranch manager until 1961, when N. R.'s son Al Vail, who had been groomed to the task as a cowboy for the previous 25 years, took over. Al Vail was responsible for the day-to-day management of the Vail & Vickers ranch on Santa Rosa Island for the next 37 years, while his twin brother Russ Vail managed the business side of the operation from a small office in Santa Barbara. Their sister Margaret Vail Woolley and cousin Sandy Wilkinson also maintained an interest in the ranch but had less to do with its actual operation. The Vickers family heirs remained silent partners in the Vail & Vickers Company, just as John Vickers had when Walter Vail originally partnered with him.[83]

Vail & Vickers immediately sought to improve Santa Rosa Island's habitat for improved forage and a sustainable grazing operation that became recognized around the state and, eventually, the country for its enlightened range management. The company followed contemporary management practices developed by ranchers, farm bureaus, the University of California, and government agencies. Some in the scientific community praised the conditions on the island, as Don Meadows of the Channel Islands Biological Survey wrote in 1941, "The careful way in which the Vail and Vickers ranch is conducted maintains the summer vegetation in fine condition . . . under such control the island nearly approaches the original ecological conditions."[84]

83 Livingston, "Island Legacies," 179-89.

84 Quoted in Ibid., 213.

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CHAPTER TWO

A Monumental Task

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CHAPTER TWO: A MONUMENTAL TASK

The Channel Islands first came to the serious attention of the National Park Service at a transitional time in the agency's history. In 1932, the National Park Service was still very small, with an appropriation of a little over $10,000,000 to manage 67 parks and monuments scattered throughout the western United States. That year, the nation was also approaching the nadir of the Great Depression. Nearly a quarter of the eligible population was out of work, banks were demoralized, and President Herbert Hoover's response to the crisis was considered a failure. One year later, the new administration of Franklin Delano Roosevelt had introduced a radically different policy with the New Deal, a massive federal intervention in the domestic economy through deficit spending and the creation of an array of unemployment relief programs.[85] The National Park Service played an important part in the administration of these programs, resulting in a budget increase that more than doubled over the next five years. A dramatic reorganization of the national park system also occurred that year more than doubling the number of units managed by the agency to 137.[86] The National Park Service's first assessment of the Channel Islands was undertaken in the midst of this busy year, and though the resulting report was mostly positive, it was soon forgotten in the rush of work and new responsibilities that followed.

By the time the agency's attention returned to the Channel Islands in 1937, the only lands still available for park designation were Anacapa and Santa Barbara Islands, the smallest islands in the entire archipelago. Despite reservations about their worth, they became Channel Islands National Monument the following year under the Antiquities Act of 1906. The National Park Service chose national monument status for a variety of reasons. First, the process was comparatively simple, requiring only a presidential proclamation rather than an act of Congress. Given that these were government-owned islands, however, rather than private property, it would not have been difficult to authorize a park act. More important was the relative significance of the islands, which was not considered great. The National Park Service had chosen to take these two small islands only because it assumed that one or more of the larger islands in the Northern Channel Islands would eventually be acquired as well. Monuments were often considered second-class parks, usually smaller and possessing a lower level of significance than national parks, although this distinction was never formalized and there were important exceptions in which presidents proclaimed monuments to save sites from development or other threats when a distracted or recalcitrant Congress failed to pass park legislation.[87] Monument designation therefore seemed more appropriate for Anacapa and Santa Barbara Islands until more significant resources on the larger islands could be added. Monuments were also intended

85 David Kennedy, *Freedom From Fear: The American People in Depression and War*, 1929-1945 (New York: Oxford University Press, 1999).

86 Harlan D. Unrau and G. Frank Williss, *Administrative History: Expansion of the National Park Service in the 1930s* (Denver, CO: NPS, Denver Service Center, 1983); John C. Paige, *The Civilian Conservation Corps and the National Park Service, 1933-1942: An Administrative History* (Washington, DC: NPS, 1985).

87 One example of this sequence of procedures was the Grand Canyon, which was proclaimed as a Department of Agriculture monument in 1908 and was then enlarged and transferred to the Park Service in 1919 as a park.

primarily to protect vulnerable resources rather than to provide recreational opportunities.[88] Since protection from adverse use, vandalism, and poaching was the National Park Service's most immediate objective in the Channel Islands, monument status was again determined to be the most appropriate designation.

Under monument status, the National Park Service managed Channel Islands as a reserve that required no infrastructure or staffing. By this time, there was little more that could be done. With the nation beginning to prepare for a war, the New Deal relief programs were winding down, and NPS appropriations diminished accordingly. Administration of the Channel Islands was made a collateral responsibility of other national parks, and the monument received little direct attention for many years. When interest finally resumed a little over a decade after World War II, the NPS budget was once more growing with the introduction of Mission 66, and new park units were under consideration. This favorable climate would introduce the next stage in the development of the Channel Islands with the long struggle for expansion of its authorized boundaries and eventual designation as a national park.

BEGINNINGS

Proposals to designate one or more of the Channel Islands as a park have a long history. The Park Service considered the idea of making Santa Cruz Island a national park as early as 1924, but Director Stephen Mather felt that the island would be more appropriate as a state park.[89] In 1928, the State of California seriously entertained this idea when its newly-formed state park commission, headed by landscape architect Frederick Law Olmsted Jr., included Santa Cruz Island among its 320 proposed units.[90] Olmsted had categorized Santa Cruz Island among potential "Sea Coast Projects," noting that it was

> *the most notable of the islands off the coast of Southern California in respect to vegetation, scenery, sea-caves and running water, rising to 2400 feet elevation. Good fishing, boating, bathing.*[91]

The commission's report was submitted to the governor in December 1928. A generous bond act approved the previous month assured the implementation of many of the commission's proposals. Santa Cruz Island, however, was not one of them.[92] The stock market crash less than a year later eliminated any immediate incentive for further public investment in parks.

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88 Unrau and Williss observe that "administratively, national monuments were areas deemed to be worthy of preservation, and were set aside as a means of protection from encroachment. A national park, on the other hand, was an area that would be developed to become a 'convenient resort for people to enjoy.'" Unrau and Williss, *Expansion*, 12.

89 Roger W. Toll, "Proposed Channel Islands National Park, California: Report to Horace M. Albright, Director, National Park Service," March 21, 1933, NASB, RG79, CHIS Collection, Box 14, Folder 201, 68. Unfortunately, Toll does not provide any further context or cite sources for this proposal.

90 Frederick Law Olmsted Jr., "Report of the State Parks Survey of California," December 29, 1928, 57. www.parks.ca.gov/pages/795/files/Olmsted_Report_SP_Survey_1928.pdf. Accessed June 3, 2014. Note that Frederick Law Olmsted Jr. had already been instrumental in the creation of the National Park Service, helping to draft the Organic Act that established the agency in 1916. (The key language of the legislation describing the agency's mission and purpose is attributed to his authorship.)

91 Ibid.

92 Ethan Carr, "Report of the Director of the Survey to the California State Park Commission," *Reprints* 13.2 (2011).

The issue came up once more only four years later, this time in connection with the five government-owned islands—San Clemente, San Nicolas, Anacapa, Santa Barbara, and San Miguel. The three largest islands—Santa Catalina, Santa Cruz, and Santa Rosa—were all privately owned. At that time, all of the government islands were administered by the Bureau of Lighthouses (the Lighthouse Service) for the purpose of providing aids to navigation for local shipping. San Clemente, San Nicolas, and San Miguel were also leased to private ranchers for livestock grazing. In June 1932, the Commissioner of Lighthouses, George R. Putnam, notified NPS Director Horace Albright that his bureau wanted to excess some of its California property and wondered if the National Park Service would be interested in taking over some of the islands off the California coast to administer as parks. Putnam believed that the only islands that might interest the National Park Service were San Clemente, San Nicolas, and San Miguel, since Anacapa and Santa Barbara Islands comprised fewer than 1,000 acres each.[93]

Director Albright repeated Stephen Mather's reaction of a few years earlier, insisting that the islands would be more appropriate as state rather than national parks. In October 1932, he informed William Colby of the California State Conservation Commission of Putnam's offer and subsequent agreement to extend this offer to the state. He cautioned that legislation would have to be put forward if the property were transferred from federal to state ownership. Although Albright did not think the islands were nationally significant, it was clear from his letter to Colby that he believed their protection should be a priority. He warned that something would have to be done relatively soon to ensure such protection, since "[the people at the Lighthouse Service] tell us that they are being pressed quite hard by parties interested in establishing private hunting clubs on the islands and other groups who are interested in exploiting the islands for gas and oil purposes." Although Albright was initially dismissive of the islands' significance, he later conceded that the National Park Service knew little about the Channel Islands and would need to investigate them further before making any decisions.[94]

The Toll Report

By January 1933, the National Park Service and state park officials had organized a site inspection. Roger Toll, superintendent of Yellowstone and the agency's primary field inspector of proposed new parks, and Thomas Vint, chief landscape architect from the San Francisco field office, represented the National Park Service. Newton Drury from the California parks commission was invited to represent the state, but he was unable to attend, and W. A. S. Foster, assistant chief of the state park system, took his place. The Lighthouse Service provided transportation, with H. W. Rhodes, superintendent of lighthouses, playing host. Roger Toll, who preceded his companions to Southern California by a few days, made an initial air inspection of the islands on January 13 on a US Navy scouting plane out of North Island, San Diego. The following day, he met with park supporters at a meeting in Santa Barbara. Many of the participants had extensive, first-hand knowledge of the islands and were able to provide Toll

93 San Clemente, the largest of the three islands recommended by Putnam, comprises approximately 31,580 acres, San Nicolas approximately 14,080 acres, and San Miguel about 9,088 acres. G. R. Putnam, Commissioner of Lighthouses, to Horace Albright, June 14, 1932, Attachment in Roger Toll Report; H. W. Rhodes relayed to Thomas Vint that the Lighthouse Commissioner in Washington had approached Director Albright about transferring excess lighthouse property. Lighthouses existed on Anacapa and Santa Barbara Islands. He promised to furnish maps and further information. Superintendent of Lighthouses, to Chief Landscape Architect Thomas C. Vint, July 15, 1932, NASB, RG79, CHIS Collection, Box 14, Folder 201.

94 Director Albright to William Colby, Chairman, California State Conservation Commission. October n.d., 1932, NASB, RG79, CHIS Collection, Box 14, Folder 201.

important information. They included Dr. David Banks Rogers, archeologist and director of the Santa Barbara Museum of Natural History (SBMNH), who had spent years studying and collecting artifacts from the Northern Channel Islands; Frank Flournoy, a civil engineer who had conducted the court-appointed topographical survey of Santa Cruz Island for the partition of the Caire family estate in 1923–1924; and Earle Ovington, a pioneer aviator who had settled in Santa Barbara and possessed an intimate bird's-eye knowledge of the islands.[95] The meeting was organized by Pearl Chase, a local enthusiast on whom the National Park Service would rely as its point-of-contact in the community.[96]

Early on January 25, Toll met the remainder of his party at the Santa Barbara Island docks, where they arrived on the lighthouse tender *Sequoia* after sailing from San Francisco two days earlier. The expedition then crossed the Santa Barbara Channel to San Miguel Island and proceeded to steam east and south over the next three days, viewing each of the islands in succession except distant San Nicolas. The group put ashore at Santa Cruz, Anacapa, San Clemente, and Santa Catalina Islands. Santa Barbara was believed to not be worth the effort, being "nothing much more than a big rock," wrote Foster, "dangerous landings at all times, is not leased, [and] not worth considering, in my estimation." Santa Rosa, surprisingly, drew little comment. Toll had nothing to say about it, while Foster acknowledged that it possessed good pasturage but was not suitable as a park. The islands that elicited the greatest interest from all members of the expedition were Santa Cruz and Santa Catalina, both of which were privately owned. Santa Catalina was already extensively developed for tourism by the Wrigley Company. Both Toll and Foster seemed to agree that the government islands would only be desirable in conjunction with one or more of these larger islands but by themselves did not warrant designation as a park or monument.[97]

95 Ovington is credited with the first official airmail delivery in US history, made in New York in 1911 while flying a Blériot XI.

96 Roger Toll to W. A. Setchell, March 17, 1933, NASB, RG79, CHIS Collection, Box 14, Folder 201.

97 Ibid., Roger Toll, Report.

Figure 2-1. Roger Toll was superintendent of Yellowstone National Park and the preeminent inspector of places proposed for addition to the national park system. He would have been the next director of the National Park Service had he and biologist George Wright not been killed in an automobile accident in 1936. He set up this selfie while visiting Carlsbad Caverns in November 1931.

Source: NPS Photo Archives, Harpers Ferry Center, WRO Collection.

W. A. S. Foster wrote up his final report shortly after returning, and his conclusions largely reflected the immediate impressions that expedition members had formed on the trip without the benefit of further consideration or research. He was convinced that a park could not be justified without first acquiring one of the big islands to anchor it, preferably Santa Cruz Island, which he believed to be the most interesting of all the islands after Santa Catalina. Of the other big islands, Santa Rosa had failed to attract any one's attention, while San Clemente was dismissed out-of-hand for its desolation and comparative remoteness. Unless Santa Cruz Island could be acquired, or some other resource possessing similar significance, Foster believed there was little reason to pursue the proposal any further. Thomas Vint corroborated that this was the consensus of the group at the conclusion of the expedition, later writing "we found that the islands now owned by the Government are quite bleak and barren in their general aspect, and that the islands themselves have no outstanding value to warrant National Park or National Monument use."[98] Unlike Foster, however, both Vint and Toll deferred making any final conclusions based on initial impressions without first consulting people who knew the Channel Islands. Foster also conceded that the group had not yet "considered the whole from a bigger or future view point, or even a scientific view point." Above all, it was the scientific viewpoint that Vint and Toll now sought, and they decided to consult specialists in various fields of science and scholarship before Toll wrote the final report for the NPS delegation. By that time, Toll's recommendation concerning establishment of a park or monument in the Channel Islands, although less than enthusiastic, was far more positive than Foster's.

One of the first scientists to be consulted by Toll and Vint was Dr. William A. Setchell, chair of the department of botany at the University of California, Berkeley (UCB). Setchell and other members of his department were already well aware of the Channel Islands, and the chairman responded with enthusiasm to the idea of protecting the islands as a park or monument.[99] He acknowledged landscape architect Vint's assessment of the barren and nonpicturesque character of the islands, especially the smaller government-owned islands, but insisted that they possessed considerable biological significance because much of the terrestrial flora was unique to these islands. This was particularly the case of the larger islands such as Santa Cruz. Setchell believed that this uniqueness represented an earlier stage of plant evolution that was preserved on the islands by their comparative isolation from mainland influences and wrote "the Channel Islands represent a surviving relic of the flora of California as it probably existed in late Tertiary times." This relictual island endemism had been observed by many other California botanists, including Herbert L. Mason, director of the Jepson Herbarium at the University of California, who later accompanied Setchell in meetings with NPS staff over the proposed monument. The

98 Thomas Vint to Dr. W. A. Setchell, February 7, 1933, NARA, RG 79, Entry 20, Roger Toll Records, Box 2, Folder "CHIS."

99 The Department of Botany's close connection with the Channel Islands extended beyond Setchell to his predecessor, Dr. Edward L. Greene, whom Setchell replaced in 1895. Greene spent considerable time on Santa Cruz Island and was familiar with the Caire family who owned the island at that time. As Setchell recalls, "the Caire Family early came under the influence of Professor Edward Lee Greene, my predecessor in the University of California, and a man who made a very considerable study of this peculiar flora and the peculiar floral conditions of the Channel Islands." It was at least partly due to this influence, Setchell believed, that Santa Cruz Island had been well cared for under the Caire family's management. Because of its unique botanical resources and relatively good condition, Setchell recommended that Santa Cruz Island, of all the Channel Islands, warranted special attention for preservation as a park or scientific reserve. W. A. Setchell to Thomas Vint, February 9, 1933, Ibid; R. L. Moe and D. Browne, "W. A. Setchell (1864-1943) & N. L. Gardner (1864-1937)," in D. J. Garbary and W. J. Wynne, eds., *Prominent Phycologists of the 20th Century* (Hantsport, Nova Scotia, Canada: Lancelot Press, 1996). http://ucjeps.berkeley.edu/history/biog/setchell.html Accessed April 12, 2019.

islands also supported examples of autochthonous (indigenous) endemism, representing the ongoing but divergent evolution of populations long separated from a source species.[100]

William Setchell was even more excited about the marine resources of the Channel Islands. This may be why Vint, who saw greater park potential in the watery portion of the islands than the terrestrial, contacted him. Among Setchell's professional interests was marine botany. He had written his graduate thesis on kelp and he was intimately familiar with the large kelp beds that grew offshore of the islands.[101] He considered these submarine masses of vegetation to have "no counterparts elsewhere in the Northern Hemisphere other than on our own west North American Coasts." Not only were these submarine forests of giant kelp noteworthy in themselves, but they supported an abundance of other animal and plant life, and Setchell recommended that they be protected in order to limit public access and prevent private exploitation. He noted that the Channel Islands kelp beds had already been harvested during World War I for the production of nitrates and acetones needed in the war effort and correctly predicted that the practice would resume.

Setchell contacted a colleague at UCB, wildlife biologist Joseph Grinnell, to ask his opinion about the significance of the islands in terms of their fauna. Grinnell was director of the university's Museum of Vertebrate Zoology and already had close ties with the National Park Service. Assistant Director of the NPS Branch of Research and Education Harold C. Bryant, at that time, had been his student.[102] Grinnell strongly agreed with Setchell that the islands should be protected as a national park or monument. In a letter to Thomas Vint, he described the abundant fauna that the islands supported, including several rare or endemic species. The latter included island foxes, several species of land birds, and a species of night lizard, but Grinnell also noted that many marine mammals and pelagic birds depended on the islands for critical habitat. He considered all of these populations and endemic species at risk from adverse human impacts and recommended that conservation measures be taken to protect them:

> *From faunal considerations, and in view of the scientific and cultural needs of the future, I would urge preservation of those islands, as many of them as possible, from commercial exploitation. By any feasible means, they should be set aside to constitute National Parks or National Monuments, and so be kept, as is, for the values stated.*[103]

Although Vint and Toll consulted primarily with natural scientists, they also sought the opinion of archeologists and historians on the cultural significance of the islands. They learned about the islands' historical significance in connection with early Spanish maritime exploration, especially

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100 T. D. A. Cockerell, "San Miguel Island," *Scientific Monthly* 46 (February 1938) 181; Allan A. Schoenherr, C. Robert Feldmeth, and Michael J. Emerson. *Natural History of the Islands of California* (Berkeley, CA: University of California Press, 1999) 8.

101 R. L. Moe and D. Browne, "W. A. Setchell and "N. L. Gardner."

102 Joseph Grinnell was first director of UCB's Museum of Vertebrate Zoology, serving in that role from 1908 until his death in 1939. He is credited with inspiring Yosemite's natural history program, begun by students Harold C. Bryant and Loye H. Miller in 1920. This was an early precursor of the Park Service's interpretation program. See also H. C. Bryant to Regional Director, Oct. 21, 1937 and note his reference to both Grinnell and Loye Miller on behalf of protecting Channel Islands for their biological resources. On Loye Miller, see Hildegarde Howard, "In Memoria: Loye Holmes Miller," *The Auk* 88 (April 1971) 276-285.

103 Joseph Grinnell to Thomas Vint, February 10, 1933, NASB, RG79, CHIS Collection, Box 14, Folder 201.

the expedition of Juan Rodríguez Cabrillo.[104] But the archeological resources of the islands appeared even more important. Although the full significance of the Channel Islands' 13,000-year record of human occupation was not yet known, many scholars already suspected the value of these resources based on the density and quality of archeological deposits. Speaking of Santa Cruz Island, David Banks Rogers, curator of SBMNH, informed Roger Toll that, "scientifically it is a tremendous value, as it once supported a teeming prehistoric population of seafaring people whose origin is shrouded in mystery." He claimed to have observed more than 100 village sites on this island alone. Like the other scientists whom Vint and Toll consulted, Rogers believed that Santa Cruz was the most significant of the Channel Islands and had the greatest potential as a park. "I should say, without a moment's hesitation, that in Santa Cruz Island is condensed more of romantic beauty and scientific lure than is to be found in any place of equal area in southern California."[105]

This and other reports from scholars familiar with the Channel Islands finally persuaded Vint and Toll that the islands should become a national park or monument. The strongest arguments had come from men like Setchell, who convinced both NPS men that the most significant resources in the Channel Islands were marine. In his final report, therefore, Roger Toll recommended that the proposed park should be oriented primarily toward the waters surrounding the islands rather than the islands themselves. "The value of such a project would not be dependent upon the scenery of the islands nor their land features, but primarily upon the interest and value of the marine features, including plant and animal life."[106] It would be, in Toll's words, an oceanic national park. No other such park yet existed within the national park system. Apart from Acadia in Maine and small portions of a few other parks, such as Glacier Bay in Alaska and Hawaii Volcanoes, the National Park Service possessed few examples of coastal and pelagic resources, and none of these were extensive. Channel Islands would be the first park intended to represent the ocean as its principal and defining characteristic. The islands, as Grinnell, Rogers, and others had indicated, possessed many significant terrestrial resources, but Toll concluded that they should serve primarily as points of access to the marine resources surrounding them.

Toll's enthusiasm for the proposed park, however, was dampened by the fact that the three largest and most significant of the islands—Santa Catalina, Santa Cruz, and Santa Rosa—were privately owned and unavailable to be included in a park. The five government-owned islands that were available were all much smaller in size and possessed few desirable characteristics. Toll wrote that, "the Government islands are bare of trees, have no streams and few good springs, little commercial utility except a limited amount of grazing, few suitable harbors, are not readily accessible and are desolate and barren in appearance."[107] San Clemente and San Nicolas Islands were also located inconveniently far from the mainland for the casual boater, and both were soon transferred to the US Navy. Neither Toll nor Vint believed that the remaining three

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104 For example, Guy Fleming, District Superintendent, California Division of State Parks, to Roger Toll, April 19, 1933, in Roger W. Toll Report.

105 David Banks Rogers to Roger Toll, February 3, 1933 attached to Roger Toll Report, 1933, NASB, RG79, CHIS Collection, Box 14, Folder 201. Rogers also discussed in some detail the devastation caused by overgrazing of sheep on San Miguel and Santa Cruz. He described the wanton slaughter of marine mammals on San Miguel for trimmings and vandalism by boaters on Santa Cruz, presenting these observations as further justification of the need for federal protection under national park or monument status.

106 Roger Toll to Wayland T. Vaughn, Director of Scripps Institute of Oceanography, La Jolla, CA, February 18, 1933, NASB, RG79, CHIS Collection, Box 14, Folder 201.

107 Ibid.

islands, by themselves, warranted designation as a national park or even as a monument. However, they did believe that these small islands could become integral parts of a larger protected area that included the larger islands, or portions of them, if the latter could eventually be obtained. Toll thought that this might be possible and thus proposed that a monument comprising the government islands be established at the present time. It would serve as the kernel of a more expansive national park that could be realized at some point in the future. "It seems quite possible either now or at some future time to develop an area of remarkable interest in connection with the Channel Islands, using as a starting point the islands that are now owned by the Government and adding in the future such parts of the privately owned islands as might be made available."[108] He even suggested how the private owners of the larger islands might be induced to sell by taking steps to affect the valuation of their property and thus increasing their tax burden.[109]

Channel Islands National Monument

Despite Roger Toll's endorsement of the proposed monument, the National Park Service failed to take any action for another four years. In the interim, the Lighthouse Service went ahead with its plans to dispose of excess property by transferring San Nicolas Island to the US Navy on January 31, 1933, followed by San Clemente and San Miguel Islands on November 7, 1934. Only tiny Anacapa and Santa Barbara Islands remained within the authority of the Department of Commerce. The Lighthouse Service still had active aids to navigation on both of these islands and even maintained a small residential compound on east Anacapa, but it needed only a portion of the island land area for these purposes and had no interest in keeping the rest. Both islands were too small to be of use to the navy but remained attractive to various private interests. Before offering the islands up for private sale, however, the Department of Commerce repeated its earlier offer to transfer the islands to the National Park Service, notifying Secretary of the Interior Harold Ickes by letter dated February 5, 1937.

Still unsure about the value of this offer, despite having Roger Toll's 1933 report on file, the Park Service arranged another site visit. This time Assistant Director Harold Bryant was sent from the Washington, DC office. Bryant seemed an appropriate choice, given his past experience in California and his close acquaintance with scientists familiar with the Channel Islands such as Joseph Grinnell of UCB and Loye Miller of the University of California, Los Angeles. Bryant made a one-day excursion to the islands on September 20, 1937, accompanied by Deputy Chief Forester Lawrence F. Cook and Acting Assistant Regional Director Bernard F. Manbey from the NPS regional office in San Francisco. The US Coast Guard (USCG) provided transportation from Santa Barbara Island on its vessel *Hermes*. The expedition steamed directly to Santa Cruz Island, docking at Prisoner's Harbor and riding horses to the Central Valley to meet with Edwin L. Stanton. Stanton had just bought all but the eastern end of Santa Cruz Island a few months earlier from the Caire family, and Bryant was apparently curious to know what he intended to do with his new property. Bryant made it clear in his subsequent report that he believed Santa Cruz Island ought to be managed by the National Park Service, and he was disappointed when

108 Ibid.

109 Roger Toll Report, 66.

Stanton assured him he was not interested in selling and intended to continue raising sheep.[110] After a brief inspection of Stanton's Main Ranch, the expedition departed Santa Cruz Island and steamed east to Anacapa, then south to Santa Barbara Island, viewing both through binoculars from the deck of the *Hermes*. They returned to the mainland by 10:00 p.m. that night.[111]

The report that Harold Bryant submitted a few months later contained little information that Toll's report had not provided. However, Bryant included a manuscript and accompanying a letter of support from Dr. Theodore D. A. Cockerell, a biologist from the University of Colorado who was working on a synthesis of the biological resources of the Channel Islands.[112] Cockerell's manuscript appears to have been the principal source of information that was later used to support establishment of the monument. Like the other scientists whom Toll and Vint had consulted in 1933, Cockerell pointed to the high number of unique or endemic species occurring on the islands and emphasized the scientific significance of this phenomenon. He described both autochthonous and relictual endemics and attributed their occurrence to past sea level rise, which had cut the islands off from the mainland sometime during the late Pleistocene epoch. Geologists later rejected this idea of an ancient peninsula extending from the mainland, but recognized that the northern islands were once united as the single large island Santarosae. Cockerell also noted that the geologic record preserves evidence of a much different climate than the present one, containing fossils of woody flora such as Douglas fir (*Pseudotsuga menziesii*) and Gowen cypress (*Cupressus goveniana*) that are now found farther north. He also believed that the discovery of fossilized mammoth bones, subsequently attributed to *Mammuthus exilis*, an autochthonous island endemic, was further evidence of an ancient peninsular connection between the Northern Channel Islands and the mainland and illustrated the dramatic environmental changes that had occurred over the course of the last epoch.

An NPS press release from a few years later summarized the contemporary scientific understanding of the islands, their formation, and subsequent development. Although much of this probably came directly from Cockerell, as well as Grinnell and Setchell, it represented how the National Park Service itself understood these processes and would interpret them to the public:

> *Once connected with the mainland, these land fragments represent the peaks of mountain masses now submerged beneath the sea. This submergence took place so long ago and so gradually that much of the animal and plant life originally common to the entire area has had time to evolve in the Channel Islands along lines that show marked differentiation from that on the mainland deriving from the same ancestral stocks. Jays, wrens, finches, towhees, song sparrows and several other kinds of birds have developed individual characteristics of color and behavior unduplicated*

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110 In describing the unique biological significance of Santa Cruz Island, Bryant wrote, "a good way of dissipating such a resource is to utilize the islands for sheep and cattle. A good way to save such a resource is to give it complete protection under the National Park Service." Harold C. Bryant, "Report on Proposed Channel Islands National Monument," September 20, 1937, NASB, RG 79, CHIS Collection, Box 14, Folder 201. Note that the date given by Bryant refers to when the expedition took place, not when the report was completed, which was November 27, 1937.

111 Bryant, "Report," 1937; and Lawrence F. Cook, deputy chief forester (NPS), to Dir., NPS, Oct. 20, 1937, Ibid., Describes trip with Asst. Dir. H. C. Bryant and Acting Asst. Reg. Dir. Bernard F. Manbey on Sept. 20, 1937.

112 Oct. 28, 1937. NASB, RG79, CHIS Collection, Box 14, Folder 201. Dr. Theo. D. A. Cockerell, University of Colorado, to Bryant, with manuscript of article on San Miguel Island, later published in *Scientific Monthly*, enclosed; and Bryant, "Report," 1937. Cockerell's manuscript was later published as T. D. A. Cockerell, "San Miguel Island," *Scientific Monthly* 46 (Feb, 1938): 180-187. See also, Cockerell, "The Botany of the California Islands," *Torreya* 37 (Nov-Dec, 1937): 117-123.

> *elsewhere. They are distinctly different from their relations on the mainland. Scores of flowers and shrubs found nowhere else have been noted. Mammals, from mice to foxes, are similarly unique.*[113]

The information supplied by Cockerell supported Harold Bryant's conclusion that the principal significance of the Channel Islands, at least those still being offered by the Lighthouse Service, lay in their value to science. He agreed with Cockerell and scientists Grinnell and Miller that the vulnerability of the islands' natural resources to private spoliation justified protection.[114] This assessment was essentially the same as that offered by Roger Toll four years earlier. The greatest difference was Bryant's much narrower emphasis on science alone, particularly natural science, with little or no mention of cultural, scenic, or recreational values.[115] Bryant did not believe those resources and opportunities were available on Anacapa and Santa Barbara Islands. His report also departed from that of his predecessors by its curious failure to mention marine resources. Unlike Roger Toll, who had proposed an oceanic national park, Bryant seemed oblivious to the waters he travelled over to reach the islands. He spoke only of their terrestrial resources, although he did mention breeding colonies of marine mammals and ground-nesting sea birds.

Bryant was the only one in the inspection party to recommend that the National Park Service accept Anacapa and Santa Barbara Islands from the Lighthouse Service, but he suggested that they remain undeveloped and be used solely for scientific research.[116] "No development should take place, the real interest being to make of these islands research reserves where fauna and flora would receive special protection so as to afford the scientist opportunity for studying island areas unmodified by man." Had this recommendation been implemented, it would have been an unusual precedent for the National Park Service, whose mission required it to balance protection with enjoyment. But Bryant, like Toll before him, held out hope that the monument might eventually grow beyond these two islands and become more than an undeveloped nature reserve. He recommended that the National Park Service take advantage of any opportunity that might present itself to acquire one of the neighboring islands, which offered recreational opportunities as well as resource values. He clearly was thinking of Santa Cruz Island, which he was careful to note "would make an ideal national park meeting adequately true standards for such areas."[117]

Even before Bryant's final report was submitted, NPS Director Arno Cammerer met with Secretary of the Interior Harold Ickes on October 20, 1937, to discuss, among other matters, the proposed Channel Islands National Monument. Ickes approved the proposal, instructing Cammerer's office to draft a proclamation for the president's signature. This was completed by February of the following year and returned to the Secretary for transmittal to the White

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113 Dept. of the Interior, Information Service, "National Park Service," Press Release, March 14, 1940, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

114 Harold Bryant to the Regional Director, Oct. 21, 1937, Ibid.

115 On scenery, for example, Bryant wrote that "Anacapa and Santa Barbara Islands have little to commend them except their vertical shoreline with arches and caves and wave-beaten rocky shore and a remarkable display of spring wild flowers," but this lyric enumeration of scenic qualities seems to contradict his point. Bryant, "Report," 1937.

116 Penciled note on letter of Jan. 14, 1938 by Bernard Manbey comments that he, Cook and Bryant toured islands but only Bryant recommended inclusion in monument. Manbey and Cook did not. NASB, RG 79, CHIS Collection, Box 14, Folder 201.

117 Bryant, "Report," 1937.

House.[118] Presidential Proclamation No. 2281 establishing the 85th national monument was signed by Franklin Roosevelt on April 26, 1938. The monument included only Santa Barbara and Anacapa Islands, encompassing approximately nine-tenths of the former (581.76 out of 652.00 acres) and just over three-fourths of the latter (538.22 out of approximately 700.00 acres total). The remaining land area was retained by the Bureau of Lighthouses for its aids to navigation. The statement identifying the monument's significance and purpose was as brief as it was problematic:

> *Whereas certain public islands lying off the coast of Southern California contain fossils of Pleistocene elephants and ancient trees, and furnish noteworthy examples of ancient volcanism, deposition, and active sea erosion, and have situated thereon various other objects of geological and scientific interest...*[119]

Surprisingly, no mention is made of the unique and vulnerable biological resources that inspired initial Park Service support for the monument. Only geologic processes are described. Baffling also is the reference to "fossils of Pleistocene elephants and ancient trees," neither of which were found on the two monument islands. This confusion may have resulted from an overly hasty reading of Harold Bryant's report by Washington, DC staff who were unfamiliar with the islands and failed to appreciate the differences between them. There were other problems as well. The monument boundaries began at the "high water line" and included no marine resources, even though the investigations by Thomas Vint and Roger Toll had identified the ocean as the most significant resource associated with the Channel Islands. This omission suggests that the Bryant Report may have been the only source consulted by NPS staff who drafted the proclamation. The new boundaries also failed to include much of the marine mammal haul-out sites, which lay within the tidal zone below the high-water line. This made it nearly impossible for the National Park Service to protect these animals from poachers; a problem that soon became apparent. All of these shortcomings in the monument proclamation would eventually have to be addressed, but the National Park Service had to learn what it had in the Channel Islands before it could understand how to improve its management of these resources. For the time being, it was enough that the first step had been taken in the establishment of this anticipated national park.

Understanding the Monument's Mission

Channel Islands National Monument was justified, in part, on the principle that each national park unit should represent a noteworthy example of a particular resource type. Roger Toll wrote in 1933 that the Channel Islands offered the National Park Service its first opportunity to include significant oceanic resources in the national park system. However, by the time President Roosevelt proclaimed the monument in 1938, several other coastal units existed. Glacier Bay National Monument (now a national park) was proclaimed on February 26, 1925. At the time, Alaska was not a state and perhaps Toll did not list it for that reason. President Roosevelt proclaimed Fort Jefferson National Monument (now Dry Tortugas National Park) in Florida on January 4, 1935, and signed the bill authorizing Everglades National Park on May 30, 1934. In the latter case, the park had to wait for official establishment until December 6, 1947.

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118 Arno Cammerer, "Memorandum for the Secretary," February 7, 1938, NASB, RG 79, CHIS Collection, Box 14, Folder 201; Acting Asst. Dir. Fred T. Johnston to Moskey. Dec. 14, 1937. It is apparent from this that the proclamation was drafted within NPS directorate. Ibid.

119 Presidential Proclamation No. 2281, April 26, 1938.

The resource foci of these units were, respectively, glaciers, a bastion/prison, and the "river of grass." Congress authorized the first national seashore at Cape Hatteras on August 17, 1937.[120] Although lands would not be appropriated for Cape Hatteras for another 16 years, the nation now had, in principle, at least two ocean-oriented parks, one on the Atlantic Ocean and one on the Pacific Ocean. The purpose and management priorities of these parks, however, would follow very different trajectories. Cape Hatteras emphasized recreation—a 1940 amendment to the Cape Hatteras Act added "recreational area" to the park's name—while the national seashore concept itself would be defined by the National Park Service as predominantly recreational in purpose. This was stated as early as 1938 in the prospectus for Cape Hatteras:

> *Primarily a seashore is a recreation area. . .Secondarily, the area should include adjacent lands which by reason of historical, geological, forestry, wildlife, or other interests, have sufficient justification to be preserved by the Federal Government.*[121]

Channel Islands, protected as a national monument under the Antiquities Act, was under no such legislative obligation to provide recreation, and its priority would remain the protection of resources and associated scientific values.

The Antiquities Act of 1906, which allows the establishment of national monuments by presidential proclamation, was originally intended to protect archeological resources from the depredations of amateur collectors and pothunters. In its final form, however, the act had become broad enough to allow the protection of both cultural or natural resources possessing scientific significance. Many of the nation's early monuments were proclaimed on the basis of unique natural features including Devils Tower (the first national monument), Petrified Forest, Lassen Peak, Muir Woods, and Grand Canyon, all of which were established in the first two years of the act.[122] The Antiquities Act was not intended to protect scenic or recreational values. Even though NPS administration of the Channel Islands meant that some concession would have to be made to recreation in order to fulfill the National Park Service's dual mandate to provide enjoyment as well as protection, the primary purpose of the monument was to preserve "objects of geological and scientific interest." Director Arno Cammerer had clearly understood this when he wrote, a few months prior to the monument's establishment, that, "these islands are very valuable as research reserves where protection may be afforded so that scientists may study the island areas unmodified by man."[123] The marked contrast between these priorities and those of the national seashore inaugurated at Cape Hatteras may help to explain why the

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120 NPS, *The National Parks: Index 2005-2007* (Washington, DC: Government Printing Office, 2005).

121 "Prospectus of Cape Hatteras National Seashore," March 1938, quoted in Unrau and Williss, *Expansion*, 157-158; See also, "Federal Executive Branch Policy Governing the Selection, Establishment, and Administration of National Recreation Areas by the Recreation Advisory Council," (March 26, 1963), in U.S. Dept. of the Interior, National Park Service Handbook of 69-72; Everglades Administrative Policies for Recreation Areas (Washington, DC: National Park Service, 1968), Everglades National Park was authorized on May 30, 1934 but not established until December 6,1947. It too had a lengthy coastline but the focus of protection was the "river of grass" that led to the coast.

122 Hal Rothman, *America's National Monuments: The Politics of Preservation* (Lawrence: University Press of Kansas, 1994).

123 Director Arno Cammerer, "Memorandum for the Secretary," February 7, 1938, NASB, RG 79, CHIS Collection, Box 14, Folder 201. This observation was taken directly from Harold Bryant's report of September 20, 1937, in which Bryant recommended that the Park Service accept transfer of Anacapa and Santa Barbara Islands, but that "no development should take place, the real interest being to make of these islands research reserves where fauna and flora would receive special protection so as to afford the scientist opportunity for studying island areas unmodified by man."

National Park Service never saw the Channel Islands as a legitimate candidate for national seashore status despite strong congressional support for it during the late 1960s.

One of the ironies of Channel Islands National Monument is the fact that the islands did in fact possess outstanding archeological resources but were reserved under the Antiquities Act for their "geological and scientific interest" instead. If the other islands in the northern group are included—as early planners clearly intended—these resources ranked among the most significant in North America. Sufficient knowledge of the Channel Islands already existed among professional scholars to assess the value of these cultural resources, even if they were still poorly understood. David Banks Rogers of the SBMNH had testified to their "tremendous value." Cultural resource specialists with the National Park Service were also aware of the potential significance of the Channel Islands, as this technical comment from the Archeological Sites Division suggested:

> *The Channel Islands were the aboriginal home of the Chumash Indians, culturally the most advanced tribe of southern California. The rapid decay and early extinction of this tribe as a result of Spanish colonization and missionization constitutes one of the classic examples of the destructive effect of acculturation between Indian and Euro-American civilizations. The village sites of the Chumash have yielded some of the richest collections found in California which serve to throw archeological light on the historical and ethnographical sources of the region.*[124]

Despite the opinions of these specialists, however, the National Park Service never considered the subject of cultural resource management to be especially urgent. In 1939, regional historian Olaf Hagen conveyed recommendations by a historian and an archeologist who had prepared a study of cultural themes for Channel Islands National Monument. Attached to his letter was a penciled note that read, "as long as a specific request for the studies mentioned by Kelly & Porter [the archeologist and historian] is not received, the subject is not urgent. It therefore does not seem necessary to acknowledge them."[125] Not surprisingly, little more is found on the subject of cultural resources in monument records for many years.

Another irony implicit in the establishment of Channel Islands National Monument was its endorsement by landscape architect Thomas Vint. He was well educated in classic aesthetic principles and knew that the Channel Islands lacked the scenic qualities that characterized many of the older national parks—a balanced harmony between the sublime and the picturesque or beautiful. The Channel Islands elicited powerful sensations of awe but offered little that appealed to the more refined or classical spectator. The monotonous plane of encircling ocean, the pounding surf on rocky shoreline, and the desolate island plateaus, barren of trees, were sublime but not picturesque. Nevertheless, the experts he consulted convinced Vint that the islands and their surrounding waters were significant, but for scientific reasons rather than for scenic appeal. His conclusion reflected an important shift in NPS culture, presaging a time when ecological values would become just as important as the aesthetics that had justified the creation of the first national parks.

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124 NPS, Archeological Sites Division, Branch of Historic Sites, "Technical Comment on Report, 'Investigation of Santa Barbara, Anacapa and San Miguel Islands, California,'" August 31, 1939, Ibid.

125 Olaf T. Hagen to the Regional Director, Nov. 14, 1939, Ibid.

MANAGING THE MONUMENT

Appreciating the limited size of new monuments, the National Park Service sought to increase the monument's area almost immediately. In August of that year, E. K. Burlew, acting Secretary of the Interior, contacted the Secretary of the Navy to inquire whether the navy was interested in transferring any of its property in the Channel Islands. The National Park Service had never been greatly interested in San Nicolas or San Clemente Islands, which were both too distant and inaccessible to be managed effectively as parks. But it was greatly interested in San Miguel and repeatedly requested the navy to transfer this island, or at least to cooperate with the National Park Service in managing it. The Secretary of the Navy, however, informed Department of the Interior officials that the navy wished to keep San Miguel, even though it had no present use for the island and was, in fact, leasing it to a sheep rancher. Although the navy claimed that it was providing adequate protection for the "scientific values" found there, Interior officials were alarmed to learn that the navy was allowing livestock to graze on this fragile landscape. Believing that this was a recent development, they were highly critical of the navy for authorizing the practice.[126]

On December 2, 1938, Acting Secretary of the Interior Harry Slattery wrote to the Secretary of the Navy requesting that sheep grazing on San Miguel Island cease and that the island with its adjacent offshore rocks "remain free from all but scientific and emergency use." He also repeated Interior's request that San Miguel Island be transferred to the National Park Service if the navy should no longer need it for national defense purposes.[127] This was a bold request, given that Interior had no formal authority over San Miguel Island. Acting Secretary of the Navy William Leahy responded a few weeks later, explaining that the navy had not introduced grazing on San Miguel, as Slattery had insinuated, but had inherited an existing grazing lease from the Lighthouse Service when it obtained the island in 1934. The navy chose to renew this lease, and would continue to do so, but also require its lessee to gradually reduce his stocking rate. Leahy was baffled by Secretary Slattery's suggestion that these practices would, in short time, destroy the island's natural ecology, since sheep grazing was hardly new to San Miguel Island, having been introduced nearly 100 years earlier by George Nidever. According to records possessed by the navy, San Miguel had been covered with dense brush up to that time, but the increase in Nidever's stock eventually denuded it. Continuation of grazing over subsequent years had kept island vegetation in a depauperate state up to the present time. Secretary Leahy closed his correspondence to Slattery with a request for Interior's opinion on the impact of continued grazing in light of this information. Perhaps this was meant to be snide, but the remark was a poignant reminder that the Interior Department needed to know more about the Channel Islands if it was to manage them responsibly and avoid further embarrassment in its dealings with the navy.[128] Within a matter of weeks, NPS Director Arno Cammerer instructed his regional office in San Francisco to organize a detailed inspection of Channel Islands National

126 Acting Secretary of the Navy Leahy to the Secretary of the Interior, September 12, 1938, Ibid., Acting Secretary of the Interior Harry Slattery, to Secretary of the Navy, December 2, 1938, Ibid. The source of Interior's information about grazing on San Miguel Island was an article in the *Oakland Tribune* from October 6, 1938.

127 Harry Slattery to Secretary of the Navy, December 2, 1938, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

128 US Navy to Department of the Interior, December 12, 1938, Ibid.

Monument. Underlining its continued importance to the National Park Service, San Miguel Island was included in the itinerary as well.[129]

The First Sumner Report

The National Park Service's first official inspection of Channel Islands National Monument was conducted by two wildlife biologists from San Francisco, E. Lowell Sumner Jr. from the NPS regional office, and biologist Richard M. Bond from the Soil Conservation Service. The US Coast Guard (USCG) provided transportation for the expedition, which left San Pedro on April 14 and spent two days each on Santa Barbara, Anacapa, and San Miguel Islands.[130] Sumner inventoried plant and animal species on the three islands and later compared his data with historical inventories to get a sense of how much had changed over the last century with the introduction of exotic species, loss or diminishment of native ones, and the reorganization of species composition. As brief as the expedition was, Sumner's survey was remarkably comprehensive and provided the National Park Service with essential baseline data for the monument islands. Sumner called attention to key resources that were particularly significant or vulnerable, such as the breeding colony of brown pelicans (*Pelecanus occidentalis californicus*) on Anacapa Island, the endemic Channel Islands song sparrow (*Melospiza melodia graminea*), and the high number of endemic plant species on all of the islands.[131] These observations helped shape many of the park's future management priorities.

Figure 2-2. Lowell Sumner at his retirement dinner in 1962. Over three decades, his research and recommendations for wildlife management at the Western Regional Office were vital for many of the parks in the system.

Source: Photographer unknown. NPS Photo Archives, Harpers Ferry Center, JOTR Collection.

129 Arno Cammerer to Regional Director, Region IV, January 5, 1939, Ibid.

130 Various correspondence between NPS and US Coast Guard, April, 1939, Ibid.

131 In Lowell Sumner's time the bird was known as the Santa Barbara song sparrow.

Sumner also identified significant problems or threats to the islands. His observations indicated that the islands had undergone a substantial transformation over the past century as a result of European American impacts. Chief among these appeared to be the introduction of exotic mammals such as sheep. Livestock grazing had denuded island vegetation, resulting in the erosion of topsoil documented by Richard Bond, and the destruction of habitat for many native species. In describing the much-reduced song sparrow habitat on Santa Barbara Island, for example, Sumner quoted a historical account from 1890 that described the island as covered in "long coarse grass that grows thick and tangled everywhere, making walking difficult."[132] The song sparrow was extremely abundant in this dense vegetation cover, which contrasted markedly from the relatively sparse cover evident during Sumner's inspection. Indeed, further reduction in native vegetation eventually led to the extinction of this population of song sparrow by 1958. The most dramatic changes observed by Sumner and Bond had occurred on San Miguel Island, where historic grazing rates had been the most intense. Richard Bond's chief contribution to the expedition report was a detailed description and analysis of the effects of nearly a century of overgrazing that had removed most of the native vegetative cover on the island. He wrote, "Exposed to the destructive force of accelerated run-off and gale-like winds, the sandy soil, stripped of its vegetation and deprived of its humus, gives the impression of disintegrating almost everywhere." The authors illustrated their conclusions with a series of landscape photographs.[133]

132 Sumner was quoting from C.H. Townsend, "Birds from the coast of western North America and adjacent islands, collected in 1888-'89, with descriptions of new species," *Proceedings of the United States National Museum* 13 (1890) 131-142.

133 Bond's conjecture about the historic loss of vegetation on San Miguel Island is supported by early descriptions of the islands recorded by the U.S. Coast Survey, which wrote in 1850 that, "the surface of San Miguel and Santa Rosa is rolling, and covered with grass and bushes …"; and that the shores of Cuyler Harbor on San Miguel Island were, "high, steep, and rolling, and covered with coarse grass and bushes." George Davidson, *Directory for the Pacific Coast of the United States, Reported to the Superintendent of the U.S. Coast Survey* (Washington, DC: U.S. Coast Survey, 1862), 17, 24. The survey was conducted in 1850 and originally published in the Coast Survey Report for 1858.

Figure 2-3. The heavily eroded landscape of San Miguel Island appalled Roger Toll during his aerial survey of the Northern Channel Islands on January 13, 1933.

Source: "Proposed Channel Islands National Park, California: Report to Horace M. Albright, Director, National Park Service," March 1933. CINP Archives, Acc. 100, Cat. 1168.

Figure 2-4. This aerial photograph taken by the US Navy in the late 1960s showed that the condition of San Miguel Island remained heavily altered by the sheep removed two decades earlier and extensively covered by patches of bare, windblown sand.

Source: CINP Archives, Acc. 217, Cat. 3502.

They submitted two versions of the Sumner Report. The first, which was submitted to the director on July 28, 1939, was authored entirely by Sumner and intended primarily for internal use. It included a list of practical recommendations at the end of each section meant as guidance for park administrators and resource managers. The second version of the report was slightly longer and included additional sections on soil conditions authored by Richard Bond whose name only appeared on this version. It omitted most of Sumner's management recommendations, suggesting that it may have been intended for a wider audience.[134] Sumner's recommendations concerning the monument islands included the following main points:

1. Place the monument under the administration of one of the existing national parks on the mainland.
2. Secure the assistance of the Coast Guard and the State Division of Fish and Game in patrolling the islands and adjacent waters.
3. Post the island, informing visitors that it was a national monument and thus discourage egg collecting and the slaughter of marine mammals.
4. Remove or exterminate feral house cats and exotic Belgian hares on Santa Barbara Island.
5. Appoint Raymond "Frenchy" LeDreau as custodian or caretaker on Anacapa Island and allow him to continue living there.[135]

Although San Miguel Island was not part of the monument, Sumner also included recommendations for its management. This island attracted Sumner's greatest interest. After noting the various reasons for its significance to science and scholarship, he observed that "the custodianship of the Federal Government certainly should include a conscientious attempt to check further destruction and restore it as nearly as possible to its original productive condition."[136] Sumner then went on to recommend a restoration program that would involve successive plantings of native species. None of this would be effective, however, without the removal of all sheep. Herbert Lester, who lived on the island with his family, was grazing about 1,100 head at that time. Sumner acknowledged that a flock this size would not constitute an adverse impact under normal conditions, but the present degradation of the island was so severe that even this relatively small number could not be sustained.[137]

Victor Cahalane, the acting chief of the NPS wildlife division, quoted extensively from Sumner's report in an August 14 memo to the NPS director in Washington, DC[138] Repeating most of Sumner's recommendations, Cahalane emphasized the need for greater protection of the islands' marine mammals and nesting seabirds and the extermination of exotic species such as cats. His attention assured the report a wide audience within the National Park Service, and Sumner's recommendations would soon become, in effect, if not in fact, the monument's first

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134 Although still intended only as an NPS report, Sumner probably hoped to write a version suitable for scholarly publication. There is no record that this was ever completed, though he did prepare a brief six-page summary intended as a publicity release. Memo, July 15, 1939, NASB, RG 79, CHIS Collection, Box 14, Folder 201; E. Lowell Sumner Jr., "Wildlife Studies on the Channel Islands National Monument." Transmitted Feb. 27, 1940 by the regional director to Superintendent Scoyen, Ibid.

135 Summarized by Lois Weinman, Historic Resource Study, 166.

136 Sumner, "Wildlife Studies," 68.

137 Ibid., 69. Herbert Lester worked for Robert Brooks, who held the lease from the navy.

138 Acting Chief, Wildlife Division Victor Cahalane memo, Aug. 14, 1939. NASB, RG 79, CHIS Collection, Box 14, Folder 201.

resource management plan. Since no formal context yet existed for the management of resources within the National Park Service—natural resource management plans would not be introduced until 1965—Sumner's report, with its detailed management guidelines, both satisfied this need and represented an important precedent for future management practices.[139]

Administration of the Monument

The National Park Service acted quickly on the first of Sumner's recommendations. Responding directly to Cahalane's memo, Acting Regional Director John White instructed Eivind Scoyen, superintendent of Sequoia National Park, to assume administration of Channel Islands.[140] Management by Sequoia's superintendent followed the wishes of President Roosevelt whose interest in the islands had been spurred by his Smithsonian friends and who wished to avoid congressional inquiries about funding the new monument.[141] Although the arrangement was meant to be a temporary expedient, Channel Islands National Monument would remain under the nominal authority of Sequoia National Park until 1957. The regional office proposed that an annual budget of $515 be allocated for the purpose of administering the monument. This small sum was designed to support only a minimal NPS presence to protect essential resources. The bulk of the money ($300) would go toward travel for visiting inspections, though a portion ($140) would also fund a temporary on-site ranger. The remainder would be used for miscellaneous expenses such as photographs and signage. Small though it was, this budget was not approved until the 1941 fiscal year.[142]

Probably the leading concern for NPS managers during the monument's first decade was protecting its wildlife from destruction by visiting fishermen, poachers, and collectors. The slaughter of marine mammals was of great concern to park managers. It was still common at that time to shoot at the animals from passing boats or hunt them on shore. Commercial fishermen considered sea lions a particular nuisance, believing that they competed for economically valuable fish or fouled nets, causing them financial hardship. The California Division of Fish and Game (CDFG) was authorized to cull sea lion populations periodically to support commercial fishing interests. Some poachers still hunted the animals, while others simply killed them for fun. Lowell Sumner encountered a party of hunters on Santa Barbara Island during his 1939 inspection. Realizing that they had come ashore to shoot the marine mammals, he warned the men that this was not permitted within the boundaries of a national monument. The men professed ignorance and departed without complaint. He reasoned that proper signage might deter at least some people, though he realized it would have little effect on the majority, especially fishermen and thrill seekers who shot at marine mammals from offshore.

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139 "Guidelines for Resources Management in the Areas in the Natural Category of the National Park System," in, "Memo," Assistant Director to All Field Offices, October 14, 1965, Pinnacles National Park, Museum Collection 3658, Box 25, Folder 4.

140 John White to Sequoia National Park, August 26, 1939 NASB, RG 79, CHIS Collection, Box 14, Folder 201. Note that John White was Scoyen's predecessor at Sequoia. Eivind Scoyen came to Sequoia in 1939. In 1941 he was transferred to Kings Canyon, and John R. White became superintendent of Sequoia and CINM. Administration of Sequoia and Kings Canyon was merged in 1943, and E. T. Scoyen became superintendent of both units from 1947 until 1956. He also served as superintendent of CINM from 1947 until 1955.

141 Douglas Brinkley, *Rightful Heritage: The Renewal of America*, (New York, NY: Harper Collins, 2016) 421.

142 Regional Director Frank Kittredge memorandum for the Director, September 15, 1939, noted that $515 would be applied to Fiscal Year [FY] 41, and Kittredge to Superintendent Scoyen, November 29, 1939, reported that no funds would be available for FY40. NASB, RG 79, CHIS Collection, Box 14, Folder 201.

Sumner also reasoned that signage might stop the common practice of raiding seabird nests for eggs. Numerous nesting colonies of seabirds made both of the monument islands popular destinations for gathering eggs. Anacapa Island's greater accessibility to the mainland made it more vulnerable, but Santa Barbara Island was also targeted. Most of these eggs were probably taken for food, but some were also gathered for private collections or sold to museums. Sumner mentioned that bald eagles were particularly susceptible to this practice.

Effective deterrence would require active patrols and, ideally, a physical presence on the islands. Since the National Park Service had neither the staff nor the equipment to conduct patrols, it sought assistance from other agencies that did have these resources. On June 29, 1939, Regional Director Frank Kittredge wrote to Herbert C. Davis, the head of the California Department of Fish and Game, explaining the situation and asking whether his agency could provide support with its patrol vessel *Bonito*. Kittredge noted that he had received reports, some from CDFG sources, that shootings were occurring on the monument islands and might be expected to continue if something were not done to intervene.[143] Davis promptly agreed to provide the patrols, but in return, he asked that the National Park Service, in the interest of reciprocity, allow his agency to conduct periodic culling of the sea lion herds within monument boundaries. Davis reminded Kittredge that the state had a responsibility to "manage the size of the herds so that they will be preserved for their aesthetic value, but not allowed to multiply to where they are an unnecessary predator on our commercial and game fishes."[144]

This offer underlined how vastly different were the values of the National Park Service and the California Department of Fish and Game regarding wildlife, and suggested that the state would be, at best, a questionable ally in the protection of marine mammals. Nevertheless, Kittredge referred the offer to Lowell Sumner who surprisingly was willing to consider this opportunity to limit the uncontrolled slaughter of sea lions, although he was clearly repulsed by the thought of condoning management killings to maintain a population determined only by scenic, rather than biological, criteria. Sumner was also concerned that this might set a precedent for allowing outside agencies to manage wildlife within national park system units, a practice that the National Park Service had consistently opposed up to that time.[145] In the end, Sumner referred the decision up the chain-of-command to Washington, DC, where the proposal was rejected. The Washington office not only agreed with Sumner's concern over precedent, it also noted that the state's policy was under criticism, and the National Park Service did not want to be implicated in a controversial practice that might soon be rejected.[146]

The National Park Service also sought assistance from the US Coast Guard. Sumner strongly recommended this alternative in his report and later followed up in Washington, DC[147] It was an obvious suggestion in most respects, since the Coast Guard already conducted sea patrols, had a good working relationship with the National Park Service in the Channel Islands, having

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143 *California Fish and Game*, vol. 25 (1939) 246.

144 Frank Kittredge to Herbert C. Davis, executive officer, CDFG, June 29, 1939, NASB, RG 79, CHIS Collection, Box 14, Folder 201; and Davis to Kittredge, July 6, 1939, Ibid.

145 Sumner's initial response, recorded in a memo dated July 15, was to reject the proposal, but he later temporized after considering the advantages that might result from cooperation with the state. Lowell Sumner, "Memorandum for the Regional Director," August 24, 1939, Ibid.

146 Acting Associate. Director to Acting Regional Director, September 25, 1939, Ibid.

147 Director Cammerer to Rear Admiral Russell R. Waesche, Commandant, USCG, March 7, 1940 formally requested for patrol of islands, minimum of one visit each island per month from April 15 to August 15, less during other months. Ibid.

provided assistance on several occasions in transporting park staff to the islands, and now shared the two monument islands with the National Park Service after its merger with the Lighthouse Service in 1939. In mid-March, 1940, Captain S. V. Parker, Commander of the Coast Guard's San Francisco District, contacted the NPS regional office in that city to offer his assistance. The regional director responded by outlining a minimal patrol of monthly aircraft overflights, supported by surface vessels as needed.[148] Although this agreement would remain nominally in effect until the outbreak of World War II nearly two years later, the National Park Service did not express much confidence in its effectiveness. By early 1941, Lowell Sumner wrote that the park's minimum patrol requirements still needed to be met.[149]

Another management priority identified by the Sumner report was exotic species. Sumner had described the devastating effects that introduced mammals had on the island ecosystems. The most evident damage had been caused by sheep, which had overgrazed and suppressed or eliminated much of the native vegetation on all of the islands, even Anacapa.[150] On Santa Barbara Island, grazing had ceased by about 1930, and native vegetation was beginning to recover, but introduced Belgian hares and domestic feral cats were still causing considerable damage.[151] The hares fed on native plants such as the giant coreopsis (*Coreopsis gigantea*) and might have posed a more significant threat if not for predation by the feral cats.[152] However, the cats preyed on more than just rabbits. They also hunted seabirds that used Santa Barbara Island as nesting habitat. By the time Sumner visited the island in 1939, historic nesting populations of Cassin's auklet (*Ptychoramphus aleuticus*) and Scripps's murrelet (*Synthliboramphus scrippsi*, formerly known as Xantus's murrelet) had been entirely eliminated. Other native bird species were potentially vulnerable to this threat as well.

Sumner recommended that the feral cats be eliminated as soon as possible, a sentiment that was shared by Victor Cahalane.[153] Neither of the scientists discussed the Belgian hares, which were not yet an urgent problem due to the predatory cats. They may not have contemplated what might happen once predation pressure from feral cats was removed. Sumner consulted with various experts at the University of California, Berkeley (UCB) and California Department of Fish and Game to determine how the cats might be controlled. He proposed several potential treatments for consideration by the Washington office. These included biological control with the introduction of five or six male bobcats or a similar number of male coyotes. Under this scenario, the introduced predators would harass and kill the domestic feral cats, then eventually die off themselves without being able to reproduce and become naturalized on the island. Whatever the likelihood of success, the risks involved seemed considerable, and Cahalane rejected this option. Sumner also proposed using poisoned bait. This had the advantage of being target-specific and unlikely to result in unforeseen collateral damage. Sumner's only hesitation was over a matter of principle, since the use of poison, he pointed out, was "contrary to the usual

148 Regional Director to Commander Parker, USCG, March 21, 1940, Ibid.

149 Regional Biologist to Regional Director, February 28, 1941, Ibid; E. T. Scoyen to A. Brazier Howell, Council for the Conservation of Whales, April 1, 1941 noted "At the present time no funds are allotted for patrol or protection of these islands, although we do have some sort of agreement with the Coast Guard that they will look out for the area." Ibid.

150 Weinman, "Historic Resource Study," 96.

151 Ibid., 80-88; Sumner, "Report," 8.

152 Jack C. von Bloeker Jr., curator of mammology, Los Angeles County Museum of History, Science and Art, to Perry R. Gage, acting regional director, January 2, 1940, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

153 Aug. 14, 1939. Victor Cahalane memorandum, August 14, 1939, Ibid.

policy of this service."[154] No attempt at controlling exotic species would be made until the park could place staff on the islands themselves.

Gathering Interest

The single greatest problem facing the National Park Service in the administration of Channel Island National Monument was not having a physical presence on the islands or any practical way for NPS staff to access them on a regular basis. This handicap prevented the agency from effectively addressing any of the management concerns outlined by Sumner. As a possible compromise, Sumner had recommended granting caretaker or custodian authority to Raymond "Frenchy" LeDreau, the reclusive lobster fisherman who had lived on Anacapa Island for over nine years.[155] This was clearly not an adequate solution and did nothing to address management of Santa Barbara Island. The young monument needed a dedicated NPS ranger and, if possible, a boat to provide transportation and marine patrols. Regional Director Kittredge indicated as much in a memo to Eivind Scoyen of Sequoia National Park not long after the superintendent assumed authority for the monument. His highest priority was placing a ranger for at least part of the year on Santa Barbara Island, where the threat from sea lion poachers was greatest. Although Kittredge did not mention it, an on-site ranger would also be able to implement resource management objectives such as control of the feral domestic cats. Superintendent Scoyen, however, had a low opinion of the new monument and was reluctant to commit any resources to it without a dedicated budget.[156]

Figure 2-5. After 1938, the National Park Service used one of Frenchy LeDreau's buildings to post a sign notifying fishermen and other visitors that the area was now protected by the federal government.

Source: CINP Archives, Acc. 217, Cat. 3212

154 Nov. 13, 1939. Lowell Sumner memorandum for the Regional Director, November 13, 1939. Ibid.

155 LeDreau apparently made a positive impression on Sumner, and his recommendation may have been motivated as much by a desire to leave the man undisturbed as any practical interest in securing a reliable caretaker. "In any event," Sumner wrote, "it is recommended that the livelihood of Mr. LeDreau be not interrupted and that he be allowed to remain on the island as long as he desires (he is 60 years old or older)." Lowell Sumner, "An Investigation of Santa Barbara, Anacapa, and San Miguel Islands," June 28, 1939, CINP Archives, Acc. 250, Cat. 4016, Series 3, Folder 2, 18.

156 Frank Kittredge to Superintendent Scoyen, October 25, 1939, NASB, RG79, CHIS Collection, Box 14, Folder 201; Kittredge to Scoyen, November 29, 1939, Ibid.

Despite his initial reservations, Scoyen agreed to visit the Channel Islands to learn more about them and accordingly began planning an inspection for spring 1940. The trip took place over the week of May 13–18, with Scoyen accompanied by Sequoia's naturalist, Frank Oberhansley, and two rangers. Richard Bond from the Soil Conservation Service again joined the NPS party in Los Angeles. The Coast Guard provided transportation out of San Pedro on its cutter *Aurora*, taking the group first to Santa Barbara Island, where two days were spent exploring. Scoyen estimated that they saw about 1,200 sea lions as well as 6 elephant seals (*Mirounga angustirostris*) hauled-out on a beach. These large pinnipeds had only recently returned to California waters after being hunted nearly to extinction during the previous century.[157] The party made a similar exploration of Anacapa Island, camping at Frenchy's Cove, where they enjoyed the company of Frenchy LeDreau. Superintendent Scoyen was deeply impressed by his tour of the islands, and his earlier low opinion of the monument was "completely reversed." The discovery of the rare elephant seals on Santa Barbara Island had convinced him of the importance of protecting the island as a reserve for threatened wildlife. Anacapa Island was similarly important, he realized, for the protection of nesting seabirds, especially the large colony of brown pelicans. But Scoyen also enjoyed the scenic opportunities of the Channel Islands. "With all due respect to Yellowstone's grizzly show, and other things of this kind which I have seen in the national parks," he wrote, "I never had more real fun than about an hour spent watching a colony of about sixty sea lions gambol and play in the ocean off the west coast of Santa Barbara Island." He concluded his brief report with the exuberant comment, "Boy! We've got something out there in the Channel Islands."[158]

Superintendent Scoyen was far more interested in making a commitment to manage the Channel Islands after his May visit. When a budget was finally approved for the monument the following fiscal year, Scoyen assigned a Sequoia ranger to Santa Barbara Island from May through early July 1941. Ranger Clarence Fry was one of the two rangers who had accompanied Scoyen on his inspection of the monument the previous year. Fry was joined in this assignment by his wife. The two made their temporary quarters in an old house built by Alvin Hyder, the farmer who had lived on the island prior to its acquisition by the National Park Service. Fry quickly demonstrated the importance in having a ranger posted on the island. During his stay, he kept a record, not only of wildlife but also human visitors, adding significantly to the park's knowledge of how the island and surrounding waters were used, how often they were visited, and by whom. For example, during the month of his residence, Fry counted 86 commercial fishing vessels in the immediate vicinity of Santa Barbara Island. He was also able to document threats to resources, as when he intercepted some of these fishermen attempting to harvest a meal from the numerous gull nests on the island:

> *Two attempts were made by Japanese fishermen from the commercial fishing craft 'Kiko' and 'Marie' to collect gull eggs. The haul was frustrated in both instances because I contacted the 'eggers' before the nesting grounds were reached. My action was causing them to return to their ship via the newly placed Government sign, which I informed them was for their information and benefit, and suggested they*

157 The first to be sighted north of Mexican water were recorded by Paul Bonnot at San Miguel Island in 1938. Paul Bonnot, "The Sea Lions, Seals and Sea Otter of the California Coast," *California Fish and Game* 37.4 (Oct. 1951) 371-389.

158 Eivind Scoyen, memorandum for the Director, May 20, 1940, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

> *instruct others who might be as ignorant as they appeared to be regarding the restrictions on a national monument.*[159]

Fry's successful deterrence of these egg foragers was further justification for the value of having a ranger on-site. Although he did not witness any attempts to assault sea lions or other marine mammals, Fry was aware that periodic raids occurred. The captain of a visiting Coast Guard patrol boat described one such incident when "hundreds were slaughtered" by commercial fishermen. Fry estimated that there were about 1,000 sea lions regularly present in the surf surrounding the island, especially on the north and west coasts. Although this appeared to be a healthy population, he worried that they might not survive unless something could be done to prevent the periodic slaughter. A final important contribution made by Ranger Fry to the management of Santa Barbara Island was the elimination of the feral cat population. He did not mention the rabbits.[160]

Superintendent Scoyen made his last inspection of the Channel Islands in May 1941. Not long afterwards, he assumed the superintendency of Kings Canyon National Park, established by Congress a year earlier. Colonel John White returned to Sequoia to replace him and also assumed authority over Channel Islands National Monument. This was decided at White's request. Although Scoyen had clearly warmed to the monument by this time, he was content to let White have it, since he knew that the burden of managing a new park at Kings Canyon would be more than enough to keep him busy without the additional responsibility of the Channel Islands. He also noted that Sequoia's full-time naturalist, Frank Oberhansley, was already familiar with the Channel Islands and "interested in the scientific problems regarding the area," while Kings Canyon possessed no such expertise beyond himself.[161]

Colonel White first traveled to the Channel Islands during the following September. Like Sumner and Bond in 1939, he included San Miguel Island in his itinerary, visiting Point Bennett on the west end of the island, where he enjoyed watching thousands of seals and sea lions hauled-out on the beach.[162] The National Park Service remained strongly interested in San Miguel Island and still believed it ought to be included in the monument. This interest was largely due to the encouragement of scientists and other conservation-minded individuals who frequently urged greater protection for San Miguel Island, as the regional office later noted:

> *In a letter of October 25, 1941, Dr. John C. Merriam [of the Carnegie Institution] urged that the Director consider the addition of San Miguel Island to the Channel Islands National Monument to preserve the elephant seals of San Miguel. This was one of several requests by conservationists that this Service obtain San Miguel Island. In response to a memorandum of November 12, 1941 from Mr. Ben Thompson this office reviewed the situation at that time and agreed that San Miguel certainly should be included within the Monument to preserve its numerous unique and varied*

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159 Clarence Fry to Eivind Scoyen, July 10 and May 29, 1941, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

160 Ibid.

161 NPS Director to Eivind Scoyen, August 25, 1941 and Scoyen to the Director, Sept. 2, 1941, NASB, RG 79, CHIS Collection, Box 14, Folder 201. In personal conversation with NPS Director Drury, Scoyen said "to let White have it." (handwritten comment at bottom of letter of August 25, 1941).

162 Weinman, "Historic Resource Study," 168.

> *attractions. However, the world situation and the probable attitude of the Navy made it appear that the project should be deferred until the end of the war.*[163]

At the very least, the National Park Service hoped to have some say in how the navy managed San Miguel Island. Between January and February 1942, Director Newton Drury and Regional Director Owen Tomlinson discussed various management proposals. They were particularly interested in having livestock removed from the island, but with the recent declaration of war, they concluded that the time was inopportune, and no action was taken.[164] They also assumed, as had been reported in local newspapers, that the navy would move its lessee off the island for defense reasons and that sheep grazing would therefore cease.

The War and Its Aftermath

The United States entered World War II on December 8, 1941 shortly after the Japanese bombing of Pearl Harbor. In the early months of 1942, additional Japanese attacks were made on the coast of California. Although these were largely symbolic, designed to harass rather than achieve any strategic purpose, the United States quickly responded by organizing a system of coastal defense. The Channel Islands were key components in this system, with coastal lookout stations located on all of the islands, including Anacapa and Santa Barbara. The Anacapa station used the existing Coast Guard facilities on the east islet. On Santa Barbara Island, new facilities had to be constructed. These included a small wharf in the landing cove; a cable-operated tramway to haul equipment from the wharf to the top of the plateau; two large water tanks; and several buildings comprising two small barracks, an equipment garage, and miscellaneous utility structures. A manned lookout tower was constructed at the high point of the island as well as a radio transmitter with antenna pole and associated equipment. Santa Barbara Island was also equipped with one of the navy's earliest radar systems for detecting enemy aircraft. All of the coastal lookout stations were manned by small garrisons of navy personnel. The Coast Guard, which was moved to the Department of the Navy for the duration of the war, played a critical role in this coastal defense system, providing offshore patrols with its surface vessels. One of these vessels was credited with sinking a Japanese submarine off San Pedro Harbor.[165]

National defense temporarily replaced all other considerations in the Channel Islands, and nobody from the National Park Service visited the monument again until the end of World War II. The absence of any correspondence relating to the Channel Islands in the war-time records of the National Park Service suggests that its staff took no part in the administration of the monument during this time. Superintendent White remained officially responsible for the monument, but his attention was preoccupied with matters closer to home, especially after 1943 when Sequoia National Park operationally merged with Kings Canyon National Park. He remained superintendent of the combined unit, as well as Channel Islands National Monument, until 1947 when Eivind Scoyen again replaced him.

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163 Herbert Maier, Acting Regional Director, Memo for the Director, May 14, 1948, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

164 Newton Drury to Regional Director O.A. Tomlinson, Jan. 2, 1941; Tomlinson to Drury, Jan. 14, 1942; and Drury to Tomlinson, Feb. 3, 1942, Ibid. Lowell Sumner, for example, wrote the following comments on the transmittal copy of Director Drury's letter, "The ball has now been passed back to us, but the time for approaching the Navy seems inopportune to me; 1939-1940 was much more propitious. Perhaps the care-taker who watches the sheep is an air-craft spotter. I do not recommend any action. L.S."

165 Weinman, "Historic Resource Study," 127-138.

In the decades following World War II, the American economy grew dramatically, with gross national product nearly doubling by 1955 and per capita income rising nearly as rapidly.[166] Although much of this growth was sustained by the continuing military buildup necessitated by Cold War engagements, Americans were nonetheless eager to move forward in peaceful endeavors and just as eager to enjoy themselves in recreational pastimes made newly possible by the country's wealth. The national parks figured prominently in the leisure plans of many, and greater numbers visited the parks than ever before. Nevertheless, the NPS budget remained essentially stagnant for the next decade, and increased visitation placed greater stress on park resources precisely when park staff were least able to absorb the impact. By 1954, there were 54 million visitors a year, compared to 15 million before the war when the parks had last received full funding for maintenance and development. The situation was exacerbated by changing styles of tourism, as post-war Americans made greater use of the automobile, placing a new type of burden on parks with demand for better roads and more automobile-related services. Most existing park infrastructure remained frozen in a largely pre-war, early automotive state of development and required an enormous expenditure of federal money for maintenance at existing levels, much less to upgrade to meet postwar expectations.[167] The Channel Islands experienced an analogous pressure with the growing popularity of recreational boating, as biologist Lowell Sumner observed in 1958:

> *The postwar development of boating has mushroomed to the status of a major form of recreation. . .Modern small craft are so much faster than pre-war types that they can easily take advantage of good weather to make a quick run to or from the islands. More and more people in the middle and lower income brackets are becoming owners of small boats. An increasing number of people are having more and more leisure than ever before for boating, and for recreation in general.*[168]

The combination of technological improvement and economic growth made the Channel Islands increasingly accessible to working-class and lower-income Americans seeking a weekend vacation. The once remote islands that had previously been known primarily to commercial fishermen and professional scientists were now becoming a popular destination with the average American recreationist. But just as the National Park Service as a whole was unable to respond to national trends in park visitation owing to a lack of adequate funding, local management in the Western Region would not be able to keep up with the surge in popularity of the Channel Islands. Lacking any staff presence on the islands, the region was only dimly aware of the changes that were occurring or the effects they might be having on monument resources. In the absence of good information, the regional office considered fact-finding inspections a high priority, but the first post-war tour of the Channel Islands by NPS staff did not occur until 1948, three years after the war had ended.

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166 James L. Roark et al., *The American Promise: A History of the United States*, 3rd Ed. (Boston: Bedford/St. Martins, 2005), 995-1004.

167 In 1949, it was estimated that the cost of upgrading the parks would exceed $300 million. That same year, only $14 million was appropriated for the NPS budget. William Everhart, *The National Park Service* (Boulder, CO: Westview Press, 1983) 26.

168 Lowell Sumner, "Interpretive Plan," 1958, 13-14, CINP Library.

Post-War Reconnaissance

On April 20, 1948, Lowell Sumner accompanied Regional Director Owen Tomlinson and Superintendent Scoyen in an aerial survey of the Channel Islands from a USCG observation plane. The final report of the inspection was prepared by Sumner, who reiterated many of the themes he had discussed prior to the war but now with even greater urgency.[169] His chief concern was the destruction caused not by new visitors but by existing livestock. "This unique and originally beautiful group of islands," Sumner wrote, "has been almost unbelievably vandalized for about 100 years by overgrazing."[170] Although he noted that Anacapa and Santa Barbara Islands had both begun to recover following the cessation of grazing more than a decade earlier, all of the other islands showed visible signs of ongoing deterioration as a result of livestock still being pastured on them. San Miguel Island appeared to have suffered the greatest impact, with conditions "… so bad that by contrast severely eroded areas on the mainland seem relatively good. Probably only the Dust Bowl of the Middlewest, during its worst days, is in a more miserable condition."[171]

This observation came as a melancholy surprise to park staff, who thought that the navy was going to remove its lessee during the war and recommended that it be encouraged to do so as soon as possible. Sumner was similarly critical of the navy for having allowed grazing on San Clemente and San Nicolas Islands—this had been discontinued on both islands by this time—but otherwise showing little interest in these remote islands.[172] By contrast, he had a great deal to say about Santa Rosa and Santa Cruz Islands, both of which were privately owned and still actively ranched, though Sumner clearly hoped they might one day be transferred to public ownership under NPS administration. As previous NPS inspections had already concluded, Santa Cruz Island was the more significant of the two, in terms of natural resources and recreational opportunities, and Sumner was very critical of what he characterized as a legacy of poor management:

> *This island is without any question whatever of outstanding national importance scenically, scientifically, and recreationally. Private ownership has conferred the privilege of destroying what really belongs, not to one man or one family, but to the nation as a whole.*[173]

He believed that private ownership was similarly destructive of Santa Rosa Island, which also offered excellent recreational and scientific potential. This was the first enthusiastic assessment of Santa Rosa Island by a member of the National Park Service. It may have resulted from Sumner's aerial vantage, which revealed far more of the island than the view from a passing boat, which was the closest that NPS reconnaissance, up to that point, had ever gotten.

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169 Lowell Sumner, "An Air Inspection of the Channel Islands National Monument and Other Islands of This Group," NPS, Region Four, San Francisco, May 1948, CINP Archives, Acc. 298, Cat. 6835, Folder 62.

170 Sumner, "Air Inspection," 2.

171 Sumner, "Air Inspection," 11.

172 The US Navy had terminated its grazing leases on San Clemente in 1935 and San Nicolas in 1943. It claimed that all livestock had been subsequently removed from both islands. W. John Kenney, Acting Secretary of the Navy, to the Secretary of the Interior, Aug. 16, 1948, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

173 Sumner attributed this to the attitude of the island's private owners, claiming that "very little appears to be known about the area because the private owners have been inhospitable to visiting scientists." Sumner, "Air Inspection," p. 14-15.

The 1948 aerial reconnaissance resulted in two decisions for further action. The first of these was to resume negotiations with the navy over the subject of continued livestock grazing on San Miguel Island and the possibility of transferring the island to NPS jurisdiction. Although the navy had already rejected requests to transfer San Miguel Island prior to the war, the NPS regional directorate thought that the island might now be surplus to military needs with the war over. The directorate was apparently unaware of growing concerns within the Department of Defense over the perceived Communist threat, which would escalate into active fighting in Korea two years later. In May 1948, Acting Regional Director Maier sent a memo to the Washington, DC office summarizing the conclusions of the aerial survey and asking the director to take steps to begin negotiations with the navy over management of San Miguel Island and possible transfer of ownership. To support the first of these proposals, Maier noted that the navy had recently agreed to manage some of its strategic possessions in Micronesia as natural reserves and hoped that this might serve as a precedent for future management of San Miguel Island as well.[174] A few months later, Acting Director Hillory Tolson notified the regional office that its request was being forwarded to the navy through the Secretary of the Interior. However, he expressed doubt that the navy would consider relinquishing San Miguel Island because it was already contemplating "directed missile experiments in that vicinity." This was news to the regional office, which was not yet aware that the navy was increasing its activities in the Channel Islands rather than scaling them back.[175] As Director Tolson expected, the Secretary of the Navy responded a few weeks later denying the Secretary of the Interior's request for transfer of San Miguel Island, but the navy was willing to terminate livestock grazing and work closer with the National Park Service over management of resources.[176] Apparently unknown to the Secretary of the Navy, local naval authorities had already terminated the remaining permit on San Miguel in July, when lessee Robert Brooks was given 72 hours to remove his sheep from the island.[177]

In addition to opening dialogue with the navy, inconclusive though it was, the 1948 aerial reconnaissance also confirmed the importance of conducting regular tours of the islands, both to assess their condition and to support NPS management prerogatives. At that time, the federal presence in the monument was limited to a handful of US Coast Guard personnel stationed on east Anacapa Island, and a US Coast Guard tender that visited Santa Barbara Island about once every three months to fill the oil reservoirs on its two automatic lights.[178] Over the next few years, Superintendent Scoyen tried to make at least one aerial reconnaissance each year.[179] These overflights were supplemented by the occasional land inspection, beginning in 1950 when Scoyen, Regional Naturalist Dorr Yeager, and Regional Biologist Lowell Sumner visited Anacapa to assess the island in connection with a recent concession proposal.[180] Similar trips were made at irregular intervals over subsequent years, principally to conduct routine inspections, but one brief memo to Superintendent Scoyen in 1953 suggests that at least some efforts were being made

174 Acting Regional Director Maier to Director, May 14, 1948, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

175 Acting Director Hillory Tolson to the Regional Director, July 6, 1948, Ibid.

176 Secretary of the Interior J. A. Krug to Secretary of the Navy John L. Sullivan, July 29, 1948, Ibid.

177 Weinman,"Historic Resource Study," 146.

178 Superintendent John White to the Regional Director, August 15, 1946, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

179 Eivind Scoyen to the Regional Director, June 7, 1951, Ibid; H. L. Crowley to Asst. Regional Director Hill, February 28, 1952, Ibid.

180 Dorr Yeager to Regional Director, May 16, 1950, Ibid. The proposed concessioner was Francis Weighill, discussed below.

to actively manage resources as well: "If space available, Sumner will accompany party on Channel Islands trip. He will need 12-gauge shotgun and shells. Please Advise."[181]

Although the correspondent does not provide any further information to explain Sumner's intentions, it appears that the agency biologist was planning to carry out *ad hoc* treatment of the exotic rabbit population, which was beginning to increase now that the feral cats were no longer present to prey on them.

Apart from these infrequent official inspections, the National Park Service relied on private individuals, especially scientists who maintained an active interest in the islands and made occasional research visits to them. Their reports provided valuable information about existing natural and cultural resources as well as the impact of recent human activities. Some of these reports were highly critical of federal mismanagement of the islands. For example, archeologist Phil Orr, curator of the Santa Barbara Museum of Natural History, wrote the following lengthy comment to the regional office in March 1949 after recent expeditions to several of the islands with an interdisciplinary team of scientists:

> *It is to be regretted that one branch of our National Government (National Park Service) devotes a good portion of their effort to the preservation of wild life, while another branch (War and Navy) do nothing, and in some cases actually encourage the extermination of wild life through the actions of the officers. This was especially noted on San Nicolas, where the fox and California Sea Lions were hunted for 'sport'.*[182]

As this report suggested, Orr and many others in the scientific community supported a more robust NPS management presence in the Channel Islands, believing that the National Park Service would provide greater protection of island resources than other federal agencies. Their support would encourage both the park and the regional office to seek on-site staffing and expansion of the monument's jurisdiction including greater involvement in the management of San Miguel Island, despite the navy's reluctance to transfer ownership.

Another member of the scientific party, J. W. Sefton, complained to the National Park Service's Herbert Maier about the barren appearance of the island and recommended transplanting mainland trees and bushes to improve its scenery. Maier's response is a significant indication of the agency's purpose for Channel Islands Monument and its policy on the proper management of its resources:

> *Santa Barbara and Anacapa Island were set aside as a national monument because of the great scientific interest involved in the evolution, during an isolation of thousands of years, of peculiar plants, birds, mammals and invertebrates, many of which are found nowhere else in the world. Introduction of sheep, and of non-native weeds brought over in the wool of the animals and in forage for them, almost ruined*

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181 Assistant Regional Director Hill to Superintendent Scoyen, April 27, 1953. Ibid.

182 J. W. Sefton (President of J. W. Sefton Foundation) to Herbert Maier, March 1, 1949, Ibid. Transmitting reports from a trip on research vessel *Orca* to Santa Barbara Island. The four scientists present on this expedition were John R. Hendrickson, herpetologist at University of California, Berkeley Museum of Vertebrate Zoology; Reid Moran, Botanist, UCB; Phil C. Orr, curator, Santa Barbara Museum of Natural History; and Paul C. Silva of Berkeley. Sefton had purchased the *Orca* from the US Coast Guard and converted it to a research vessel, which he made available to graduate student researchers. Three scientific expeditions were made by Sefton to the Channel Islands.

> *the islands' unique and picturesque values years ago. However, with the abolition of grazing, they are recovering slowly. We would not want to do anything to reverse this process by bringing in new non-native plants from the mainland.* [183]

Extending the Seaward Boundary

On March 25, 1946, the National Park Service issued a "Boundary Status Report for Channel Islands." It focused attention on the inadequacy of the monument's boundary, a theme that had dominated discussion about the Channel Islands since the monument's establishment. Among other things, it noted that Gull Island (also known as Sutil Island), a small islet about 2,000 feet off the shore of Santa Barbara Island, was not included within the monument, because the monument's boundaries had been defined by proclamation as the high-water line.[184] As a matter of resource management and protection, this was a crucial omission, since the islet's high cliffs protected the habitat of native flora and fauna, lost or severely damaged on the larger, more accessible islands. When the matter was brought to the attention of Lowell Sumner, he explained in a memo to the regional director that:

> *'Gull Island' has unique features which render its inclusion within the Monument unusually important. The reason for its importance is that neither cats, rabbits, nor domestic sheep, which in times past have ravaged the main island, appear ever to have reached 'Gull Island.' Consequently, the latter now constitutes the only remnant of Santa Barbara Island where some of the murrelets remain that once nested in great colonies in burrows on Santa Barbara Island proper. Similarly, it is believed that exotic weeds, which overran the main island during the years that sheep grazed there, are absent from 'Gull Island,' and that the original island flora has been undisturbed by sheep or domestic rabbits.*[185]

Sumner believed that the monument boundary needed to be adjusted to include this valuable asset. When Superintendent White demurred, noting the impracticality of managing such an inaccessible feature without an on-site ranger or even a boat to reach it, Sumner became even more insistent. He pointed out that poachers might use Gull Island as a vantage point from which to shoot at the sea lions on nearby Santa Barbara Island.[186] Regional Director Owen Tomlinson agreed with Sumner and wrote to Director Drury recommending an amendment to the monument proclamation to adjust the boundaries accordingly.[187]

The proposal was hardly new. Not long before the war, then-Superintendent Eivind Scoyen had written to the director wondering how far seaward NPS jurisdiction extended. "If we do not have jurisdiction [seaward]," he continued, "do you think it would be possible to extend the monument boundaries so that they would include one-half or a mile ocean strip around the entire group?" Scoyen was concerned not only with the need to include marine resources

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183 Ibid.

184 Raymond E. Hoyt memo for Dorr Yeager and Lowell Sumner, March 3. 1947, NASB, RG 79, CHIS Collection, Box 14, Folder 201. The Boundary Status Report was completed March 25, 1946.

185 Lowell Sumner, memo for the Regional Director, March 24, 1947, Ibid.

186 Superintendent John White, memo for the Regional Director, April 21, 1947, Ibid.

187 Owen A. Tomlinson to Director Newton Drury, May 13, 1947, Ibid.

within the monument's boundaries, but also the smaller islets and off-shore rocks.[188] Scoyen's query was referred to the solicitor's office, which responded that NPS jurisdiction unambiguously ended at water's edge and recommended that action be taken to include outlying rocks and islets through a supplemental proclamation. Nothing was said about jurisdiction over the water and submerged lands. The solicitor also recommended that the National Park Service confirm its authority to manage resources on US Coast Guard reservations within the monument.[189] This discussion was interrupted by the war, but Director Drury now brought it up in response to Sumner's concern over Gull Island. Drury contacted the Bureau of Land Management (BLM), which had de facto authority over all unreserved offshore rocks and islets. He asked about the feasibility of extending the monument's boundary to include such features within a one-mile radius of each of the monument islands. BLM Director Fred W. Johnson responded favorably to this proposal and even offered assistance in preparing the necessary proclamation to implement it.[190]

Drury also wished to learn whether the US Coast Guard had any excess property in the Channel Islands and sent his regional chief of lands to Southern California to make inquiries. The Coast Guard, it turned out, had nothing it was willing to transfer to the National Park Service, but Commander O. A. Peterson of the 11th Coast Guard District shared some additional news that both surprised, and deeply alarmed, the National Park Service representative. He had recently heard that the navy was planning to expand its guided missile program at Point Mugu and might need to declare a broad restricted zone that would encompass all or most of the northern islands, including all of the national monument. The navy would install observation posts at the US Coast Guard reservations on Anacapa and Santa Barbara Islands to monitor its missile launches. The details and full extent of this proposed program, which would become the Naval Air Missile Test Center (NAMTC), were classified and remained vague, but the implications for the future of the national monument were potentially grave.[191]

In transmitting this intelligence to Director Drury, Regional Director Tomlinson questioned the advisability of continuing with plans to expand the monument until the navy's intentions were fully known, but Drury insisted that the National Park Service move forward as quickly as possible. He was concerned that the navy's activities in connection with the proposed missile range might have an adverse effect on wildlife and other protected resources within the monument and wanted to enhance existing protection as much as possible. Drury hoped that extending monument boundaries to surrounding off-shore rocks would help achieve this purpose. He also supported a suggestion proposed by Lowell Sumner that the National Park Service enter into a cooperative agreement with the navy to have its personnel protect wildlife on the monument islands or at least refrain from molesting them. As Sumner pointed out, a precedent already existed in the South Pacific, where the navy had recently agreed to administer bird rookeries on islands within its control as wildlife sanctuaries.[192] Sumner's proposal was not immediately implemented, but the idea remained interesting to both agencies, and eventually

188 Eivind Scoyen to Director Arno Cammerer, May 29, 1940, Ibid.

189 NPS Chief Counsel G. A. Moskey to Asst. Director Conrad Wirth, January 17, 1941, NASB, Ibid.

190 Newton Drury to the Director of the BLM, June 12, 1947 and the BLM Director's response to Drury, July 11, 1947, Ibid.

191 Regional Director Tomlinson to Director Drury, October 28, 1947, Ibid., Weinman, "Historic Resource Study," 139-142.

192 1947, Nov. 18. Lowell Sumner to the Regional Director, November 18, 1947, NASB, RG 79, CHIS Collection, Box 14, Folder 201; Director Drury to the Regional Director, December 22, 1947, Ibid.

the National Park Service and US Navy would enter into a cooperative agreement for the management of resources on San Miguel Island.

Director Drury's concerns over this new threat to monument resources resulted in a revision of the "Boundary Status Report," that was completed on January 16, 1948. The revised report proposed not only that the monument encompass off-shore rocks and islets within a one-mile radius of each island, but that it should include the intermediate areas as well.[193] This was consistent with recent developments in legal theory concerning off-shore jurisdiction. Prior to 1937, all submerged lands extending at least three miles from the continental shoreline and from off-shore islands were understood to belong to the adjoining state, not to the federal government. This legal tradition was the basis for the 1938 proclamation defining the boundary of Channel Islands National Monument at the high-water line. Assumed in this boundary definition was the understanding that the state controlled the submerged lands below this line. A series of legislative hearings beginning in 1937, however, had begun to raise doubts over the principle of state authority within the three-mile coastal margin. By 1947, the question had made its way to the Supreme Court, which concluded, in *United States v. California* (332 US 19), that the three-mile coastal margin lay within federal rather than state jurisdiction, based on a principle of paramount rights.[194] This meant that monument boundaries could now be extended the desired one-mile radius by means of a simple presidential proclamation without appeal to the state. On February 9, 1949, President Truman signed Proclamation No. 2825 (63 Stat. 1258) increasing the boundaries of Channel Islands National Monument accordingly.[195] Throughout this discussion, the navy remained quiet, offering no objection to the boundary change once it received assurances from the National Park Service that its missile test program would not be affected.[196]

Later that year, Acting Director Arthur Demaray wrote, in response to the continuing uncertainty of this question of state versus federal jurisdiction, that "no pressing problem as to the Channel Islands exists just now, but this complicated matter of ownership or control of submerged lands will be watched by us with great interest to determine whether any of our areas, including the Channel Islands, are adversely affected by any subsequent actions or decisions."[197] Following the Supreme Court decision in *United States v. California*, the states could no longer challenge federal ownership of submerged lands in court, which only interpreted the law, but they could appeal to Congress to make changes in the law itself. In 1953, only four years after the monument boundaries were extended, Congress passed Public Law 31

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193 NPS, "Revised Boundary Status Report," Jan. 16, 1948. Ibid.

194 James P. Radigan Jr. et al., *Jurisdiction over Submerged Lands of the Open Sea: A Legal and Historical Study Presenting the Position of Certain States and of the Federal Government in the Controversy over Control of Production and Development of the Mineral Resources of Submerged Areas of the Continental Shelf Adjacent to the Shores of the United States* (Washington, DC: Government Printing Office, 1951); 79th Congress, US Senate committee hearings on S. J. Res. 83 and S. J. Res. 92, March 27-30, 1939; Aaron L. Shalowitz, "Boundary Problems Raised by the Submerged Lands Act," *Columbia Law Review* 54.7 (1954) 1021-1048; and Aaron L. Shalowitz and Michael W. Reed, "Legal Background," in *Shore and Sea Boundaries*, Vol. I, Pt. 1 (Washington, DC: US Coast and Geodetic Survey, 1962).

195 Proclamation No. 2825 (63 Stat. 1258) November 9, 1949; Secretary of the Interior J. A. Krug to President Harry Truman, July 2, 1948, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

196 The Department of the of Navy responded to the proposed boundary extension with no objection, provided it would not interfere with guided missile test program or access rights at Anacapa, "which it now possesses under existing arrangements with the Coast Guard," November 9, 1948. The NPS assured Navy that it would not. Both in Ibid.

197 Acting Director Demaray to Region 4 Director, July 22, 1949, NASB, RG 79, CHIS Collection, Box 14, Folder 0-10.

(67 Stat. 29), commonly known as the Submerged Lands Act.[198] This granted jurisdiction to the states over the submerged lands three miles seaward of their coastline (or three leagues in the case of the Gulf states). The Submerged Lands Act did not conflict with the Supreme Court's decision in *United States v. California*, because the federal government was, in effect, ceding federal lands to the states, consistent with its constitutional rights.[199] The National Park Service appears to have remained largely unaware of this legislation or its implications for Channel Islands National Monument. The matter was brought to the attention of Assistant Chief Ranger John Rutter of Sequoia National Park by the California Division of Fish and Game, but Rutter noted only that "the significance of the tidelands dispute and the Park Service jurisdiction over the sea around the Islands was a matter of speculation."[200] Neither Rutter nor the state officials he interviewed seemed to realize that the 1949 proclamation expanding the monument had been effectively annulled. Without purposeful action on the part of the federal government to reserve the monument's submerged lands from legislative cession, they now reverted to state jurisdiction. It would be more than two decades, however, before this fact was appreciated, and then only after further clarification by the US Supreme Court.[201]

The First Attempt to Develop a Concession

Beginning with the Harold C. Bryant Report in 1937, the National Park Service envisioned Channel Islands principally as a wildlife reserve and had little interest in developing recreational opportunities or even encouraging visitation. This delayed the NPS mission to encourage both enjoyment and protection. The agency justified its preference on the assumption that the monument could serve as an intermediate step toward the eventual realization of a much larger park where it would be able to exercise the full range of mandated responsibilities. Until this goal was achieved, however, the agency preferred to limit its management of Channel Islands National Monument to protection of resources and to discourage visitation except by scientists and scholars conducting permitted research. This attitude was reflected in the agency's negative responses to all requests for permits to conduct business on the islands. These occurred with increasing frequency in the decade following the war in response to local sport fishing outfitters who wanted to expand their business offerings to include the islands. Typical of the NPS position at that time was the response of Regional Director Owen Tomlinson to one such applicant in the fall of 1945, "I can assure you," Tomlinson wrote, "that the National Park Service would not enter into a lease with anyone for the purpose of utilizing the island or any portion thereof for a sport fishing and other recreation center, since the Channel Islands National Monument was specifically set aside in order to serve as a refuge and for the protection of marine wildlife."[202] But Tomlinson's attitude changed by the end of the decade, as it became increasingly clear that the National Park Service did not have the means to protect island resources without assistance. Rather than having nobody on the islands, some in the regional

198 Aaron L. Shalowitz and Michael W. Reed, "Submerged Lands Act (Public Law 31)," in *Shore and Sea Boundaries*, Vol. I, Pt. 2 (Washington, DC: US Coast and Geodetic Survey, 1962).

199 Richard Breeden, "Federalism and the Development of Outer Continental Shelf Mineral Resources," *Stanford Law Review* 28.6 (1976): 1112.

200 John A. Rutter to Superintendent, Sequoia NP, "Protection and Operation Study, Channel Island National Monument," March 31, 1953, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

201 US Supreme Court, *United States v. California*, Third Supplemental Decree, 436 US 32 (1978); and Aaron L. Shalowitz and Michael W. Reed, "The Tidelands Litigation," in *Shore and Sea Boundaries*, Vol. III, Pt. 1 (Washington, DC: US Coast and Geodetic Survey, 2000), 33-35.

202 A response by Tomlinson to one request, Oct. 5, 1945, can be found in NASB, RG 79, CHIS Collection, Box 14, Folder 900.

office began to wonder if it might be better to have a private concessioner present who could be held responsible, at least nominally, to NPS management standards.

In November 1949, the regional office received a concession application from Francis Weighill, president of Hueneme Sport Fisheries, to operate facilities providing limited accommodations, supplies, and refreshments to visiting boaters on western Anacapa Island.[203] The proposal was similar to others that had been made over the years, but this time the National Park Service gave the application serious consideration. Although Weighill did appear more competent than many of his predecessors, the real difference was the changed mood within the regional directorate itself. Acting Regional Director Herbert Maier commented in a letter to Superintendent Scoyen that:

> *Other applications for permits of a similar nature have been received in the past and they have all been refused on the basis that, before any developments could be established, we should have protective personnel. We are beginning to wonder, however, if it may not be time to alter our reasoning in this matter.*[204]

Maier went on to describe the vicious circle in which the National Park Service actively thwarted visitation to the Channel Islands because it did not have sufficient personnel to protect monument resources, but at the same time was unable to obtain the needed personnel without first showing evidence of increased visitation. He believed that granting a permit to a reliable concessioner might resolve this dilemma by providing both greater protection and encouraging visitation without making greater demands on limited NPS resources.

The following February, Maier joined Superintendent Scoyen and other NPS staff for an inspection of Francis Weighill's proposed development site on Anacapa Island. The trip was also an opportunity to meet Weighill, who brought the party over on board his 98-foot cabin cruiser, the *Vellron*. Over the course of the three-day trip, Weighill described his proposal in detail. He planned to obtain a surplus barge outfitted with living quarters from the US Coast Guard and beach it in a sheltered cleft of rock between the west and middle islets of Anacapa Island near Frenchy's Cove. This would provide basic overnight accommodations, which he hoped to supplement later with cabins constructed on land nearby, although Maier opposed construction of permanent structures. Weighill explained that he intended to offer family-oriented educational excursions with short nature hikes and tours of the off-shore "marine gardens" in glass-bottomed boats. Fishing would also be available. As an additional service, the overnight accommodations would provide shelter for mariners who were caught near Anacapa Island in inclement weather.[205]

Maier was favorably impressed with Weighill, who appeared both knowledgeable about the Channel Islands and highly professional in conducting his business. Above all, Weighill's proposal seemed consistent with NPS values, offering family recreation with an educational focus. Weighill reassured Maier that he had no intention of selling liquor or hosting games of chance, both issues that concerned the regional officials.[206] Three months later, Regional

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203 Weinman, "Historic Resource Study," 169.

204 Herbert Maier to Eivind Scoyen, December 2, 1949, CINP Archives, Uncataloged files.

205 Herbert Maier to the Regional Director, February 15, 1950, NASB, RG 79, CHIS Collection, Box 14, Folder 900.

206 Ibid.

Director Owen Tomlinson also visited Anacapa Island to inspect the proposed concession site and discuss Weighill's business plan.[207] Tomlinson was by now convinced of Herbert Maier's argument to allow limited private development within the monument in lieu of a formal National Park Service presence, and Weighill's proposal appealed to him. He explained in a memo to Director Drury that his office "agreed that pending the authorization of personnel for protection purposes the concessioner's presence would have a valuable effect in preventing poaching and vandalism." On May 27, 1950, Tomlinson issued a five-year permit to Weighill, allowing him to proceed with his development plans.[208]

Unfortunately, the would-be concessioner's plans did not go as expected. By the end of the following year, nothing had been accomplished. Weighill explained that delays were due to the outbreak of the Korean War, with warnings from the US Navy that Port Hueneme, out of which Weighill operated, might be closed down and the islands themselves subject to restrictions, as they had been during World War II. These warnings were never carried out, and NPS staff suspected that Weighill was simply using them as an excuse. These suspicions were exacerbated when the National Park Service learned that Weighill had sold his highly profitable excursion business, including the *Vellron*, in order to form a new company solely to manage his "island project." Other aspects of Weighill's increasingly complicated plan, such as fishing excursions, maintenance and support, and dining operations, would be managed by business associates paying a percentage of their profits to Weighill himself as general manager and permit holder. To the National Park Service, this seemed for all intents and purposes to be a subcontracting arrangement, which violated the terms of Weighill's original permit, but could still be allowed with NPS permission. Weighill's development plans had by this time ballooned to include a large restaurant or clubhouse as well as "overnight accommodations, glass-bottom boats to view the marine gardens, boats to visit the caves and the sea lions, etc., beach furniture, surf boards, small boats with out-board motors, photo supplies, refreshment stands, fuel and gasoline pumps to supply visiting yachts, as well as our own, moorings, etc., etc., unlimited." In all, the agency estimated that Weighill was planning some 20 separate activities, each managed by a subconcessioner, in addition to the principal business managed by himself.[209]

Although Weighill interpreted growing NPS skepticism as a desire to "ease him out of the picture so that the contract can be transferred to some other applicant," the agency was in fact far more concerned about the feasibility of Weighill's plans. The fact that they were rapidly developing without input from the National Park Service or any regard for the need to conduct appropriate planning and obtain approvals, not only from the National Park Service but from other permitting agencies such as the US Coast Guard for operating vessels, the Public Health Service for providing sanitary facilities, and even the US Army Corps of Engineers for potential harbor improvements such as a breakwater was very disturbing.[210] In November 1951, Weighill was invited to the regional office in San Francisco to discuss these and related concerns. He was advised to scale back his proposed operation in order to get something started on a trial basis

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207 The inspection took place April 27-May 2, 1950, and included Tomlinson, Superintendent Eivind Scoyen, Regional Naturalist Dorr Yeager, and Regional Biologist Lowell Sumner. The Coast Guard provided transportation to Anacapa Island, while the party returned by Weighill's *Vellron*. Owen Tomlinson to Newton Drury, May 31, 1950, CINP Archives, Uncataloged files.

208 Ibid.

209 Francis Weighill to Eivind Scoyen, October 17, 1951, and October 29, 1951, NASB, RG 79, CHIS Collection, Box 14, Folder 900; Herbert Maier to the Regional Director, November 21, 1951, Ibid.

210 Eivind Scoyen to the Regional Director, October 30, 1951, Ibid.

before attempting anything larger. By this time, Weighill had only three seasons left on his five-year permit. NPS staff warned him that permits were renewed on the basis of satisfactory service, but to date he had provided no service at all and seemed unlikely to do so in the time remaining unless his plans were greatly simplified.[211] Superintendent Scoyen still wanted Weighill to succeed but regional staff increasingly doubted that he would be able to do so, and they did not want the monument to be burdened with a heavily invested but nonfunctioning concession.[212] The cost of developing Anacapa Island grew even higher after Weighill discovered that he would need a breakwater to protect his resort from winter storms. NPS engineers estimated that the 400-foot structure would cost about $1,000 per foot for a total investment of nearly $500,000.[213] This proved far beyond Weighill's means, and by 1953 he abandoned his ambitious island project.

A Master Plan for Visitors

Over the next few years, the National Park Service denied all subsequent proposals for private development.[214] Not only had its officials become wary as a result of Weighill's failure, they also wondered whether public interest in the islands warranted recreational development. Although one of the original justifications for granting a permit to Weighill had been to increase protection of resources by establishing a consistent and reliable presence on the island, the National Park Service questioned how reliable this would really be if visitation proved too sparse to make the concession successful. The new regional director, Lawrence Merriam, suspected there was little recreational interest in the islands beyond fishing and doubted "whether we should do more than to maintain the area as a scientific reserve, at least for the present."[215] This echoed the sentiments expressed by Harold Bryant in his 1937 investigation of the proposed monument. Nevertheless, the regional office was aware of the NPS responsibility to support public access as well as protecting the monument's resources. Between 1952 and 1957, therefore, the regional staff prepared a series of documents outlining a plan of development that would both facilitate and encourage greater visitation.

This development outline constituted the monument's first formal master plan. It proposed concentrating new development on Anacapa Island, the more accessible of the two islands, but limiting it to the minimum facilities needed to support visitor access and basic needs for a one-day visit. The principal developed area would be located in Frenchy's Cove on the north side of Anacapa between the west and middle islets, the same location that had been proposed by Weighill. The plan's proposed development included a wharf and one or more modest buildings to house NPS headquarters, concessioner activities, and interpretive features. Overnight stays would also be possible in a primitive campground. It would require some modification of the landform, necessitating construction of retaining walls and grading. Additional development would be confined to the middle islet and include a nature trail, wayside exhibits, and the camping area. The eastern islet remained off-limits due to its use by the US Coast Guard, while

211 Herbert Maier to the Regional Director, November 21, 1951, Ibid.

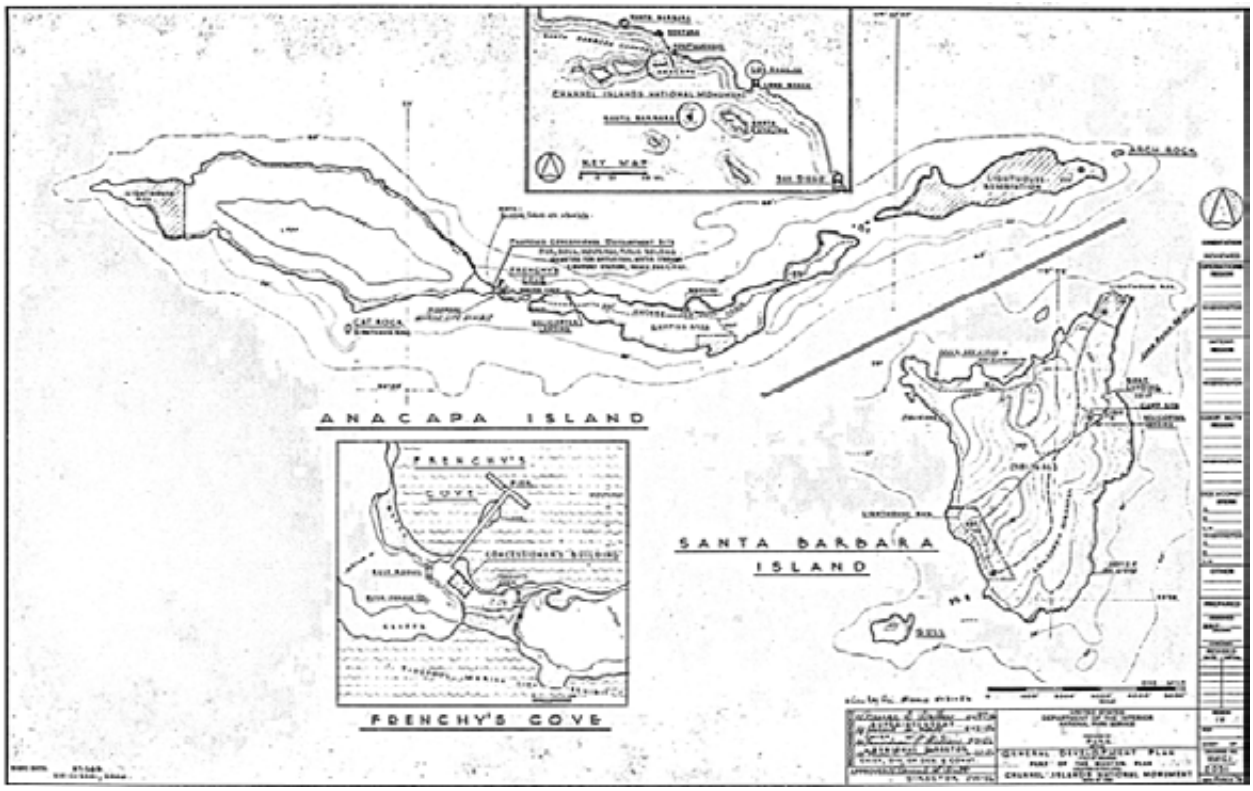
212 In a memo to the regional director, Scoyen wrote, "I still feel Mr. Weighill does not realize what he is up against on this project … Perhaps we may be able to help him by working out some kind of a temporary and experimental arrangement which will not involve him too deeply financially until the project has an opportunity to prove out." October 30, 1951, Ibid.

213 H.L. Crowley to Asst. Regional Director Hill, February 28, 1952, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

214 Lawrence C. Merriam to Bruce Johnston, March 19, 1953, NASB, RG 79, CHIS Collection, Box 14, Folder 900.

215 Lawrence Merriam, memo to the files, April 22, 1953, Ibid.

the larger west islet would have restricted access to protect native flora and fauna. Santa Barbara Island would remain largely undeveloped in order to limit access and protect natural resources. Although recreation was now an official part of the monument's management objectives, it remained subsidiary to resource protection, as the master plan made clear: "the theme of development should be the preservation of the biological and ecological aspects of the islands with the least possible impact upon the area by the presence of visitors."[216]



Map 2-1. The National Park Service proposed an ambitious alternative development at Frenchy's Cove during the 1950s, especially after the failure of a proposed concessioner's plan.

Source: Dorr Yeager and Volney Westley, "Master Plan Development Outline, Channel Islands National Monument, California," March 31, 1952, Denver Service Center, Technical Information Center Files, CHIS_159_2000.

216 Dorr Yeager, Regional Chief of Natural History and Volney Westley, Landscape Architect, "Master Plan Development Outline, Channel Islands National Monument, California," NPS, Region Four, San Francisco, CA, March 31, 1952, DSC, TIC, CHIS_159_2000.

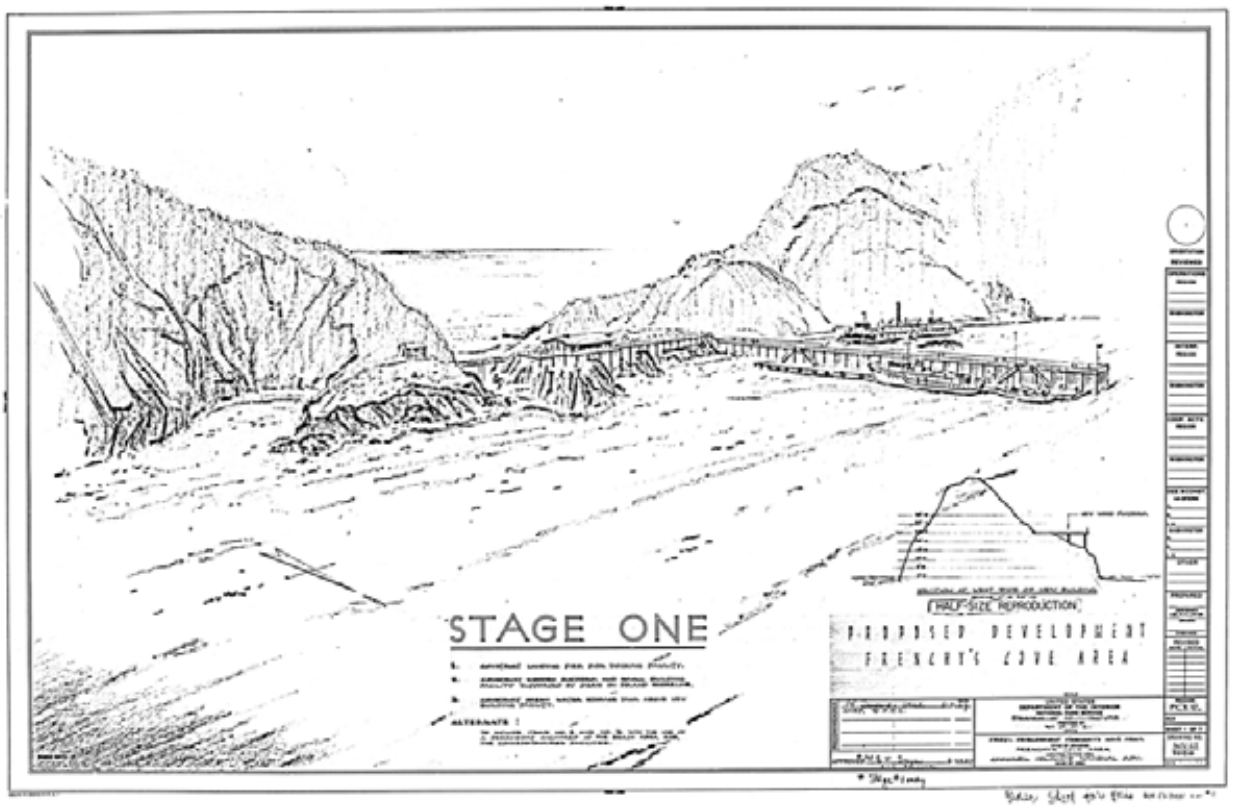


Figure 2-6. The monument's Frenchy's Cove Plan would have brought considerable construction and visitation to the Middle and Western Anacapa Islets.

Source: Dorr Yeager and Volney Westley, "Master Plan Development Outline, Channel Islands National Monument, California," March 31, 1952, Denver Service Center, Technical Information Center Files, CHIS_159_2000

Later additions to the master plan included an assessment of island vegetation prepared by forester W. C. James. He described the destructive effects of past livestock grazing, which had resulted in erosion and the introduction of exotic weeds. James also observed how the islands had steadily recovered following the cessation of grazing. This recovery, however, had been interrupted recently on Santa Barbara Island by the growing population of rabbits:

> *After the domestic grazing was eliminated native vegetation began to recover rapidly and the exotic species seemed to gradually disappear, and most of the erosion gullies began to heal over. However, domestic rabbits were introduced to the island by Army personnel during the war and have increased to such an extent that they have caused a marked effect on the recovery of the vegetation on the islands. Large bare patches of ground are appearing completely denuded of vegetation by this animal. Some action should be taken to eliminate the rabbits from the islands in the near future.*[217]

Scarcely 10 years after the war, this population of rabbits was estimated to number as many as 50,000. In 1955, efforts to control these animals intensified when Cabrillo National Monument

217 W. C. James, "Master Plan Development Outline, Channel Islands National Monument, California: Forestry," NPS, Region Four, San Francisco, CA, November 2, 1953, DSC, TIC, CHIS_159_2000.

Chief Ranger Don Robinson began dropping bags of poisoned barley and carrots from US Navy aircraft. The program never entirely eliminated the rabbits, but it greatly reduced their number and kept the population at manageable levels so long as the practice continued.[218]

A final addition to the monument's master plan addressed interpretation and was not completed until 1958. It was written by Lowell Sumner and included a detailed overview of what was then known about the history and natural history of the monument islands as well as an eloquent description of their scenic qualities. Sumner suggested that the principal theme for interpreting the islands' natural history should be everlasting change, which was illustrated on the geologic scale by the successive inundation and emergence of the islands' land masses from the surrounding sea and their [erroneously] assumed connection with the mainland. Concomitant with these geologic changes was the evolution of endemic flora and fauna that had become separated from mainland populations. Change on a more abbreviated scale, Sumner suggested, could be illustrated through the rapid devastation of native flora and fauna as a result of historic ranching practices, and their recovery under National Park Service management.

Another important element of Sumner's proposed interpretive program was a focus on the sea. This recalled Roger Toll's suggestion that the proposed park be "oceanic" in orientation, with emphasis placed on marine rather than terrestrial resources. Although Sumner did not agree with Toll's comparatively low estimation of the islands' terrestrial values, he did acknowledge the need to provide adequate interpretation of underwater features. In addition to providing more traditional amenities such as interpretive trails to tidal pools and glass-bottomed boats for viewing near-shore marine gardens, Sumner hoped to facilitate direct access to the underwater environment. He proposed that the park offer comprehensive guidance for scuba divers, a relatively new sport that was growing rapidly in popularity. For the remainder of the visiting public, he proposed constructing a submerged viewing structure that would allow nondivers to have a similar experience. This glass-walled tank would have been located in the waters of Frenchy's Cove off Anacapa Island. Although it was never built, the park would still achieve the desired effect many years later by means of closed-circuit TV and underwater cameras on Anacapa Island.

Rangers on Anacapa Island at Last

Even as the final sections of this master plan were being completed, Channel Islands National Monument underwent an important change in its administrative structure. In early 1958, Cabrillo National Monument became independent of Sequoia-Kings Canyon National Park, with administrative headquarters transferred to San Diego. Responsibility for managing Channel Islands National Monument went with Cabrillo and Don Robinson became superintendent of both monuments. This reorganization quickly brought greater attention to the management of Channel Islands, beginning with a pilot program to station park rangers on

218 "Rabbit Kingdom 'Bombed' by Plane," *San Diego Union*, October 22, 1955; Bill Thomas, "Santa Barbara Isle Almost Hareless," *Evening Tribune* (San Diego), October 28, 1963. The aerial drops sometimes went awry, with embarrassing consequences. Don Robinson later recalled how one mission missed Santa Barbara Island altogether on account of heavy fog and instead dropped its load of poisoned carrots on the Stanton ranch on Santa Cruz Island by mistake. This incident occurred some years into the eradication program, after Don Robinson had become superintendent of Cabrillo and Channel Islands National Monuments and Carey Stanton had succeeded his father Edwin on Santa Cruz Island. Carey Stanton was not pleased with the error and angrily demanded removal of the poisoned carrots. It was one of many reasons for Carey Stanton's growing displeasure with Superintendent Robinson. Dan Richards interviewed by Timothy Babalis, June 25, 2009; Carey Stanton moved to SCI and took over operation of the family ranch in 1957. His father Edwin Stanton died in 1963. John Gherini. *Santa Cruz Island: A History of Conflict and Diversity* (Spokane, WA: The Arthur C. Clarke Company, 1997) 164.

Anacapa Island implemented during the following year. The presence of on-site rangers was sorely needed and long overdue. Not only would the National Park Service be able to provide greater protection of island resources, it would also begin to fill gaps in its knowledge of critical factors such as public visitation and patterns of use. Lack of good information about public interest in the islands was one of the principal reasons that the National Park Service was reluctant to commit to further development or concession contracts despite the concepts outlined in the monument's master plan.[219]

Between June 15 and September 15, 1959, Robinson posted two seasonal rangers at Frenchy's Cove. A chartered boat transported the rangers and their supplies to the island, while a generous sport fishing operator, who regularly visited island waters with his customers, resupplied food and water at no charge to the National Park Service for the remainder of the season. Frenchy's Cove was chosen for the pilot program, because it had already been designated as a future development area under the monument's master plan. The site also included four rudimentary wooden shacks built by fishermen. One of these had been occupied for many years by Frenchy LeDreau during his residence on the island. The rangers demolished one of the buildings, which was in poor condition, but salvaged the lumber to construct a simple outhouse. They repaired and rehabilitated the remaining buildings to serve as a visitor contact station, quarters for the rangers, and a storage shed. The rangers also cleaned up years of accumulated debris, piling and burning an estimated 1.5 tons of flammable materials (mostly wood) while another 1,000 pounds of metal cans and glass bottles were collected and disposed offshore. The finishing touch was erection of a 30-foot flag pole, which the rangers had constructed on the mainland at Cabrillo and transported with them to the island. They raised the flag on July 4, 1959, to celebrate the first semi-permanent staffing of Channel Islands National Monument, neglecting to acknowledge Ranger Clarence Fry and his wife, who had spent one month on Santa Barbara Island in 1941. Superintendent Robinson considered this the official opening of Anacapa Island to the public, even though visitors had been coming to the island regularly for years. Now, however, they were met by a uniformed ranger during the summer who oriented them to the island and its resources and provided assistance if needed. Soon the rangers realized that people sometimes arrived without adequate supplies of water or fuel and began to stock a surplus of both.[220]

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219 Several years earlier, Regional Director Merriam had written to a prospective applicant for a recreational concession, "until we have had an opportunity to observe the area during the season of public use, we are not in a position to determine whether a need for concession facilities exists …" Lawrence C. Merriam to Bruce Johnston, March 19, 1953, NASB, RG 79, CHIS Collection, Box 14, Folder 900.

220 Donald M. Robinson, Superintendent Cabrillo National Monument to the Regional Director, "Pilot Study of Anacapa Island, 1959 Season," February12, 1960, CINP Archives, Acc. 298, Cat. 6835, Folder 3.

Figure 2-7. Eventually, the National Park Service removed most of the ramshackle structures at Frenchy's Cove and erected a Quonset-hut-like ranger station tent.

Source: Photographer unknown. CINP Archives, Acc. 217, Cat. 3239

The Anacapa Island rangers were surprised by the number of visitors they observed during their four-month sojourn. Anacapa proved to be quite popular, with an average of five excursion boats anchored off the island every day, primarily for sport fishing. Many people also landed, some of them staying to camp. They tallied 309 boat landings and 182 campers for the season. Among the unexpected visitors was the U.S. Navy. Navy staff from Port Hueneme had been using Frenchy's Cove as a recreational area for the previous eight years. Also surprising was the popularity of Anacapa Island with youth organizations such as the Boy Scouts and Camp Fire Girls. Nine of these organizations brought groups out for camping that season. Most visitors were unaware that Anacapa Island was administered by the National Park Service, but the official report of the pilot

program did not mention any resentment or difficulties arising from the presence of the uniformed rangers. Given the unexpectedly large number of visitors, Superintendent Robinson strongly urged the regional office to support continued staffing of the island.

MOMENTUM BUILDS TO EXPAND THE MONUMENT

In September 1940, Newton Drury, only recently appointed Director of the National Park Service, was sent an unexpected and rather surprising letter from Edwin Stanton, by coincidence an old classmate of his from the University of California, Berkeley. After congratulating Drury on his new position, Stanton explained that he was owner of the majority of Santa Cruz Island, since his purchase of it from the Caire family in 1937, and expressed his desire to see the property ultimately protected as a public park.

> *Although I am not pressing to dispose of this property still it has always been in my mind that the Islands off shore should be owned by the government. It is only a matter of time until that will be accomplished. It is my belief that the opportunity for acquisition is before a property is subdivided and when it is still in its natural state. There is an abundance of water and lovely trees. The same could be made both a game preserve and a resort for the ever-increasing population in our portion of the state.*[221]

Although this was less than a forthright offer, Stanton seemed to be implying that he was willing to sell. This is how Acting Director Demaray, who received the letter, interpreted his intent. The overture was all the more surprising given Stanton's firm refusal when Harold Bryant had proposed NPS acquisition of the ranch only three years earlier. Unfortunately, both Drury and Demaray knew that Congress was unlikely to appropriate funds to purchase the ranch, no matter how great its significance, and Demaray wrote back to Stanton regretfully informing him of this fact.[222]

Ten years later, NPS efforts to expand the sea boundaries of the monument may have been the source of rumors that began circulating around local communities that the National Park Service was interested in acquiring one or more of the privately owned islands for the monument.[223] While the interest was certainly there, nobody in the National Park Service believed at this time that any of the islands not already in federal ownership would be acquired anytime soon, if ever. Nonetheless, the rumors encouraged Stanton to phone Director Drury in June of 1950. Drury reminded Stanton that NPS interests in Santa Cruz Island dated to 1928, when the State Park Commission had recommended protecting the island as a public park, "but that no feasible way of acquiring it had ever been devised." He went on to state that he was personally in favor of making Santa Cruz Island an addition to Channel Islands National Monument, "if the lands were tendered to the Federal Government," but that the National Park Service would not be able to purchase the island outright owing to a lack of sufficient funds and the unlikelihood of any congressional appropriation to provide them. Efforts by the state to acquire the Stanton Ranch had proven similarly futile, since the state was even less able to afford

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221 Edwin L. Stanton to Newton Drury, September 9, 1940, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

222 Arthur Demaray to Edwin Stanton, September 16, 1940, Ibid.

223 Newton Drury to Regional Director, June 16, 1950, NASB, RG 79, CHIS Collection, Box 14, Folder 900.

such a major purchase than the federal government, though it was just as interested.[224] Although Stanton indicated to Drury that he would be willing to cooperate with any interested groups wanting to raise funds to acquire his property, he left it clear that he would not be willing to make an outright donation. Drury had no choice, therefore, but to decline Stanton's offer again, but he was nonetheless excited by the possibility that Santa Cruz Island might someday be added to the monument.[225]

> *Having reviewed our reports on Santa Cruz Island, my enthusiasm for this project—when we made the California State Park survey in 1928—has been rekindled. [Drury had been secretary of the California State Park Committee at that time.] There is no question that its addition to the Channel Islands National Monument would make of that area something very much worthwhile, even though the flora and fauna of the Island have taken a terrible beating under the exploitation of the past 20 years.*[226]

Despite Drury's enthusiasm, the National Park Service did not have the financial means to acquire any significant new property until the budgetary appropriations of Mission 66 were implemented nearly a decade later. By that time, Edwin Stanton had relinquished responsibility for the Santa Cruz Island Ranch to his son Carey, who did not share his father's interest in selling the island property or seeing it become a public park.[227]

Mission 66 and the Channel Islands

Conditions in America's national parks had continued to decline well into the 1950s as the NPS budget remained stagnant while visitation increased exponentially. Growing public attention to the crisis combined with the inauguration of a new president in 1953 finally inspired NPS Director Conrad Wirth to propose major changes.[228] Wirth assembled special committees to develop a prospectus of what was needed most by the parks. The result was an ambitious plan of upgrading and modernization that he called Mission 66, after the target date for the plan's completion on the agency's 50th anniversary.[229] Wirth presented the Mission 66 prospectus to President Dwight D. Eisenhower in January 1956 and received the president's personal endorsement. Congress followed shortly afterward and voted an increase in the NPS budget

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224 Herbert Maier to Newton Drury, Chief, California Division of Beaches and Parks, April 23, 1951, recalling a letter of previous year (when Drury was still NPS director) and wondering whether California might be able to purchase Santa Cruz Island because NPS could not. NASB, RG 79, CHIS Collection, Box 14, Folder 201; Drury responded on May 14 that the island was included in original Olmstead plan for California parks (1928), that it long had been dream of state park enthusiasts, but he did not know how a purchase could be made. Ibid.

225 Edwin Stanton had first offered to sell his portion of the island to the NPS in 1940, but the Park Service was not able to appropriate money to purchase new lands, and Stanton was unwilling to make a donation; Edwin L. Stanton to Newton Drury, September 9, 1940, NASB, RG 79, CHIS Collection, Box 14, Folder 201.

226 Newton Drury to the Regional Director, June 16, 1950, Ibid.

227 Carey Stanton moved to SCI and took over operation of the family ranch in 1957. His father Edwin Stanton died in 1963. Gherini, *Santa Cruz Island*, 164.

228 Among the most influential critiques of the national park crisis were a couple of popular articles written by historian Bernard DeVoto, "Shall We Let Them Ruin Our National Parks?" *Saturday Evening Post* 223.4 (July 1950): 17-19, 42-46; and DeVoto, "Let's Close the National Parks," *Harper's Magazine* 207.1241 (October 1953): 49-52.

229 For a comprehensive history of Mission 66, see Ethan Carr, *Mission 66: Modernism and the National Park Dilemma* (Amherst: University of Massachusetts Press, 2007). A much briefer account, but one that is placed in the larger context of Park Service history, is given by William Everhart, *The National Park Service* (Boulder, CO: Westview Press, 1983). Conrad Wirth provides an important insider's version of the program in his autobiography, *Parks, Politics, and the People* (Norman: University of Oklahoma Press, 1980).

that would ultimately total nearly $1,000,000. The funds made it possible to implement the largest and most comprehensive development program since the creation of the National Park Service four decades earlier.

Mission 66 touched nearly every corner of the national park system in one way or another, including the Channel Islands, though here it had little direct effect. The only tangible product resulting from the program was a new master plan. Historian Francis Ross Holland Jr., who had transferred to Cabrillo from Morristown National Historical Park a few years earlier, completed it in 1963.[230] Although he wrote the plan according to the new Mission 66 guidelines, it proposed nothing that had not already been outlined in the monument's existing Master Plan from 1952 to 958. It also contained many inaccuracies and was written in a painfully overwrought style that made it difficult to read. Channel Islands managers gave it little serious attention. It did not help that Conrad Wirth retired in 1964, two years before Mission 66's end date.[231]

Unlike this abortive master plan, the indirect effects of Mission 66 on Channel Islands National Monument were profound. The expansion of the NPS budget after 1956 combined with the enthusiasm and boost in morale brought about by the Mission 66 initiative encouraged park staff throughout the region to begin thinking once more of expansion and growth. Within this positive environment, it was inevitable that thoughts would return to the idea of a greater Channel Islands National Monument with an addition of new lands and possibly redesignation of the monument itself. Even before introducing Mission 66, however, Director Wirth had given new hope for protecting coastal and seashore areas such as the Channel Islands. In 1954, he implemented a series of studies designed to inventory and assess the remaining undeveloped coastal areas possessing significant resource values and opportunities for public recreation. Channel Islands was among several locations on the Pacific Coast that received great attention as a result.

The National Seashores

Director Wirth's seashore surveys were modeled after an earlier series conducted by the National Park Service during the 1930s when Conrad Wirth was supervising the National Park Service's Civilian Conservation Corps (CCC) program in the state parks. Those pre-war studies identified 12 seashore areas on the Atlantic and Gulf of Mexico coasts that were determined significant enough to be designated units of the national park system and 30 areas deserving protection under state park systems. In 1937, these recommendations resulted in congressional authorization of the nation's first national seashore at Cape Hatteras in North Carolina and its establishment in 1953.[232] Wirth was greatly influenced by these early studies but realized that rapid economic development following the war had made their results no longer relevant. He decided, therefore, to conduct an updated survey of the Atlantic and Gulf Coasts in 1954. The report summarizing this effort, entitled *Our Vanishing Shoreline*, was published in June 1955. As

230 NPS, "Mission 66 Master Plan for Channel Islands National Monument," September 23, 1964, NPS, Harpers Ferry Center, Park Historic Reference file, CHIS.

231 Carr, *Mission 66*, 291-331. Wirth's focus on infrastructural development in Mission 66 was increasingly challenged by scientists and natural resource managers who were part of the incipient environmental resolve that would soon come with the "Leopold report."

232 Harlan D. Unrau and G. Frank Williss, *Expansion*, 155-160.

the name suggests, much had already been lost since the original inventory. Surveys of the Pacific Coast and Great Lakes shorelines were undertaken shortly after the eastern program.[233]

While these coastal surveys were still underway, the National Park Service learned of a 1957 congressional proposal, House Resolution 8935, to establish a naval petroleum reserve on San Miguel, Prince, and San Nicolas Islands, all of which were under naval jurisdiction at that time. Eivind Scoyen, the former superintendent of Sequoia, was acting for Director Wirth at that time, and his personal familiarity with the Channel Islands helped prompt immediate action. After requesting that the Department of the Interior delay its report to Congress on the proposed bill, Scoyen instructed the regional office in San Francisco to gather as much information as it could on San Miguel Island. The resulting report was submitted to the directorate in November 1957. It provided a detailed description of the island's resources and an assessment of their value. Although the report found San Miguel's history and archeology "not particularly unique" in comparison with the larger islands, it concluded that the island's natural resources, primarily its flora and fauna, were highly significant and in need of "absolute protection by a qualified governmental body."[234] Based on these observations, the National Park Service recommended that San Miguel Island be excluded from HR 8935 and instead added to Channel Islands National Monument. Although nothing ultimately came of the petroleum reserve, the perceived threat and NPS response to it both elicited further attention. In 1958, the federal government's Advisory Board on National Parks, Historic Sites, Buildings, and Monuments concurred with the NPS directorate's high opinion of San Miguel Island and also recommended that the Secretary of the Interior make the island an addition to the monument. But the advisory group went a step further and recommended that other islands in the archipelago be added as well, if and when they became available.[235]

The following year, the final report of the west coast seashore study was published.[236] It carried the unimaginative title *Pacific Coast Recreation Area Survey*. Although the National Park Service administered the project and published the final report, the survey was made possible largely through donated private funds because the National Park Service had neither staff nor budget to carry out such an ambitious project on its own when the survey was first started. Like *Vanishing Shoreline*, the purpose of the *Pacific Coast Recreation Area Survey* was to inventory the remaining undeveloped coastline and report on areas of potential value for public recreation. The survey also took note of areas possessing significant scientific and cultural values. More than 1,700 miles of shoreline were covered, from the Mexican border to Tongue Point inside the Strait of Juan de Fuca. The US Coast Guard assisted by providing aircraft for the initial aerial inventory, but survey teams had to follow up with detailed on-the-ground inspection by motor vehicle or on foot. Of the total shoreline inventoried, the team identified 527 miles that remained largely undeveloped and possessed significant public values. This was divided into 74 individual sites, each of which was assessed separately. Seven of these sites were determined to

233 The seashore studies of the 1950s were funded by the Avalon and Old Dominion Foundations supported by Paul Mellon. The same organizations supplied the money necessary to purchase the private land at Cape Hatteras that enabled the establishment of that first national seashore in 1953. Wirth, *Parks, Politics, and the People*, 192-200; Paul Sadin, *Managing a Land in Motion: An Administrative History of Point Reyes National Seashore* (Seattle, WA: Historical Research Associates, 2007), 46-48.

234 George L. Collins, and Lowell Sumner, "Report on San Miguel Island of the Channel Islands, California" (San Francisco, CA: NPS, Region Four, 1957), CINP Archives, Acc. 298, Cat. 6835, Folder 18.

235 Secretary of the Interior, "Proposed Channel Islands National Park, Calif.," 95th Congress, 1st Session, House Document No. 95-264, Part XII, 1977, 2.

236 Department of the Interior (hereafter DOI), *Pacific Coast Recreation Area Survey* (Washington, DC: NPS, 1959).

possess outstanding significance, with five warranting protection as national parks: Cape Flattery, Oregon Dunes, Point Reyes, San Miguel Island, and Santa Cruz Island, and two as state parks: Point Brown and Leadbetter Point, in Washington.

The Channel Islands comprised a substantial portion of the total shoreline surveyed (241 of 1,743 miles, or nearly 14%) and accounted for some of the most significant resources encountered by the survey team, who concluded that, "there is, in fact, nothing comparable found along the entire Pacific Coast in the way of maritime ecology that is still relatively untouched."[237] The report devoted the first of 17 recommendations specifically to the Channel Islands, noting that they:

> *constitute the greatest single remaining opportunity for the conservation and preservation of representative seashore values, including biology, geology, history, archeology, paleontology, wilderness and recreation. Careful consideration should be given to any future opportunity to acquire or preserve for public purposes any or all of the Channel Islands group.*[238]

Scientific values predominated in this assessment, which clearly implied that the existing monument was not sufficient to protect these values and that one or more of the larger islands also needed to be acquired.

The national seashore idea received further impetus when President John F. Kennedy included it in a special message to Congress in February 1961. President Kennedy's purpose was to ask for improved conservation of natural resources, but among the resource values he listed was outdoor recreation. He urged Congress to enact a wilderness protection bill—passed three years later under President Lyndon Johnson's administration—but also "legislation leading to the establishment of seashore and shoreline areas such as Cape Cod, Padre Island and Point Reyes for the use and enjoyment of the public." Kennedy was primarily interested in Cape Cod but was urged by staff to balance this request with proposed seashores on each of the other two major coastlines, the Gulf Coast (Padre Island), and the Pacific Coast (Point Reyes).[239] The proposal was sufficiently broad to allow other seashore areas to be considered as well, and this inspired California supporters of an enlarged Channel Islands, who were already encouraged by NPS recommendations in *Pacific Coast Recreation Area Survey*. They now began thinking of a potential Channel Islands National Seashore. This hope was supported by the president's further request that a comprehensive survey be made to determine where additional national parks, forests, and seashore areas should be proposed even though sufficient surveys had already been completed by this time on all the coasts.[240]

Among the most vocal and well-connected supporters of a new park or national seashore in the Channel Islands was *Santa Barbara News Press* editor Thomas Storke, who printed the president's remarks in his paper. Storke contacted influential friends, including Undersecretary of the Interior James K. Carr, Chief Justice Earl Warren, and the Chandlers of the *Los Angeles Times*, drumming up support for the Channel Islands. Carr, for one, became enthused with the

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237 DOI, *Pacific Coast Survey*, 10.

238 Ibid., 11.

239 Sadin, *Land in Motion*, 86.

240 President John F. Kennedy, "Special Message to Congress on Natural Resources," February 23, 1961. http://www.presidency.ucsb.edu/ws/index. Accessed July 15, 2014; Sadin, *Land in Motion*, 86-87.

idea of transforming the islands into a grand theme park where visitors would encounter a romanticized mock-up of old Spanish California, interpreted by costumed rangers with guitars.[241] Less enthusiastic about the proposed park were the private landowners who would be required to sell their ranches on Santa Cruz and Santa Rosa Islands.[242] Thomas Storke lobbied California Senators Thomas Kuchel and Claire Engle to introduce a Channel Islands park bill. Although the senators supported the idea, they were reluctant to introduce the bill at this time, because they feared it would divert attention from the Point Reyes National Seashore Bill (S. 476), which they had introduced to Congress in January. Both senators felt that passage of the Point Reyes bill was far more urgent because real estate development was already threatening this Northern California peninsula, while the Channel Islands had some protection in place with the monument and were not confronted by any imminent threat.[243]

Responding to the growing interest among local supporters in a Channel Islands National Park, the National Park Service hastily created an illustrated booklet titled, *A Sea-Dominated National Park: Its Prospect and a Proposal*, which appeared in 1963.[244] The proposal was for a marine national park comprising five of the Channel Islands—the existing two monument islands plus San Miguel, Santa Cruz, and Santa Rosa.[245] The brief publication represented no original research but instead summarized information obtained from recent surveys. It noted that:

> *The superb qualifications of the northern, 5-island group became apparent during the Pacific Coast Recreation Area Survey completed by the National Park Service in 1959. This and subsequent studies found a combined array of park values not included in the National Park System and unmatched in any other similar area of park potential.*[246]

Descriptions of each of the five islands were included, though field studies had not been conducted on the two privately owned islands, so the conclusions regarding their merits, especially those of Santa Rosa Island, were somewhat speculative.

That same year, the Advisory Board on National Parks, Historic Sites, Buildings, and Monuments strongly endorsed the establishment of a major new national park in the Channel Islands, and before the year was out, the first of several park bills was introduced to Congress by Senator Claire Engle and Representative Edward Roybal.[247] The bill (S. 1303) proposed establishing a Channel Islands National Seashore, in keeping with the momentum that had

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241 Weinman, "Historic Resource Study," 180-181.

242 Gherini, *Santa Cruz Island*, 217. John Gherini noted that all of the private landowners opposed the first park bill of 1963 (SB 1303). Gherini also wrote that they were opposed to the initial proposal made in 1961. Directly conflicting with Gherini, Lois Weinman claimed that both Edwin Stanton on Santa Cruz Island and Ed Vail on Santa Rosa supported the park idea, but Weinman's sources suggest this may have been Storke's opinion rather than that of the landowners themselves (Weinman, 181). Although Edwin Stanton had twice offered to sell his property to the National Park Service in past years, the Stanton Ranch was now managed by his son, who spurned this idea.

243 Sadin, *Land in Motion*, 84-93; Weinman, "Historic Resource Report," 181-182.

244 DOI, "A Sea-Dominated National Park: Its Prospect and a Proposal," NPS, 1963. Located in the library at the Pacific West Regional Office, San Francisco.

245 The attraction of this marine orientation was indicated in the brochure's epitaph: "The sea and solitude, where man can plumb his place in nature. Left behind are the cares of an anxious life. From the primeval is man's spirit nourished and his body refreshed."

246 DOI "A Sea-Dominated National Park."

247 Secretary DOI, "Proposed Channel Islands National Park, California" 1977, CINP Central Files, 1.A.2, Cultural/Natural Resource Mgmt. Program/Planning, "Proposed Legislation," 3.

begun with the seashore surveys of the previous decade and President Kennedy's 1961 message to Congress. The National Park Service itself seems to have dropped the notion of a national seashore in the Channel Islands by this time, preferring the national park designation. The distinction between the two was confusing to many and often used interchangeably, with the more common designation of national park preferred by most. Another reason for the national seashore designation in the Senate bill was the recent passage of the Point Reyes National Seashore Act, which had been signed into law the previous September. This legislative success was an encouraging precedent, but conclusion of the debate over Point Reyes also meant that Congress could now turn its attention to other seashore bills.[248]

Enhanced Management of the Monument Islands

In 1962, the US Coast Guard initiated plans to automate the Anacapa Island light station. This was accomplished through a phased decommissioning over the next six years. By 1966, the keepers' families had been moved off the island and only a skeleton crew of five staff remained to operate the light beacon and fog signal. In 1968, this equipment was automated and the remaining crew departed. The US Coast Guard intended to support the new equipment through periodic visits rather than with a permanent staff on the island. Most of the buildings and structures that had once supported the keepers and their families now became surplus, and the Coast Guard hoped to remove them as soon as possible rather than suffer any additional expense for their upkeep. Demolition of the base with its small cluster of buildings, including four residences, had already begun when Superintendent Robinson called the Coast Guard in September of 1968 to indicate that he would like to retain the complex for NPS staff use. Three of the four residences and the lower derrick building on the landing cove had already been demolished, but the Coast Guard agreed to retain the remaining structures if the National Park Service was willing to maintain them.[249]

By 1970, a formal agreement was signed between the Department of the Interior for the National Park Service and the Department of Transportation for the US Coast Guard formalizing the negotiations that Robinson had initiated. This agreement, renewed with revisions in 1975, acknowledged the Coast Guard's continuing ownership of the 160-acre reserve on east Anacapa Island, but noted that it was only interested in the automated light beacon and the fog signal on the easternmost point of the island and temporary quarters for maintenance crews needing to make periodic visits. The National Park Service therefore would manage the majority of the islet as part of the national monument and all of the remaining buildings and structures.[250]

Another important development to occur in 1963 was a Memorandum of Agreement (MOA) between the National Park Service and the US Navy over the management of San Miguel Island. The agreement theoretically allowed the National Park Service to conduct research needed to develop a program for conservation of the island's significant natural and cultural resources. While the navy remained unwilling to relinquish entirely its authority over the island, citing its

248 Ibid., 4.

249 US Department of the Interior, Anacapa Island Light Station, Channel Islands National Park: Cultural Landscape Inventory (San Francisco, CA: National Park Service, Pacific West Regional Office, 2005).

250 License and Agreement [Cooperative Agreement], US Dept. of the Interior, NPS, and US Department of Transportation, US Coast Guard (License No. DOT CG11-3075, Agreement No. 11 CGD RL02-70, January 9, 1975). CINP, "General Management Plan Channel Islands National Park," 1984, 136.

need for greater access in the event of a future military escalation, it finally was amenable to allowing NPS management of the island resources. In fact, this would relieve the navy of a distracting burden. The navy, however, insisted that the island must remain closed to the public. This later rendered the agreement meaningless after the NPS Solicitor's Office determined that the National Park Service could not spend appropriated funds on lands owned by another agency that were not open to the public for recreational use. The stipulation made it impossible for park staff to conduct any research or resource management on San Miguel Island and prevented the preparation of a resource management report that was required by the agreement.[251]

In spite of the technical problems with the MOA, the National Park Service and the US Navy proceeded to cooperate in a few resource-related activities. In June 1966, the National Park Service sent a report to the navy entitled, "A Suggested Plan for the Management and Protection of Values of San Miguel Island," that requested elimination of the feral sheep left on the island after Robert Brooks's last attempt to remove them in 1950. From July 17 through 20, Research Biologist James K. Baker of Joshua Tree National Monument, a ranger and several navy personnel shot 148 sheep, finally clearing the island after a century of overgrazing. The National Park Service also assisted Los Angeles Museum of Natural History's Charles Rozaire with archeological investigations of the island during the late 1960s. In the meantime, San Miguel remained unmanaged and was protected largely by its isolation and the threat of periodic training bombardments by naval aircraft. It was during this period of neglect that the Lester ranch house burned down. This rambling wooden structure had originally been built by William Waters and his ranch manager John Russell sometime after 1905 and was last occupied by rancher Herbert Lester and his family until 1942.[252] The deteriorating building was finally destroyed in 1967 when a US Navy plane dropped a signal flare next to it, trying to warn off a group of private aviators who were trespassing on the island. The flare ignited the wooden structure and burned it to the ground.[253]

On May 12, 1967, the National Park Service separated the joint administration of Channel Islands and Cabrillo National Monuments. Donald Robinson transferred from Crater Lake National Park as superintendent of Channel Islands, and was joined by Chief Ranger Vern Appling from Craters of the Moon National Monument, rangers Vernon "Skip" Betts and George Bowen, and boat operator Dave Hysinger from Cabrillo National Monument. Robinson hired administrative assistant Christina McAfee (later Horton), who had previously worked as a court reporter and a legal secretary, from a federal civil service list. The small staff set up shop in an office building in downtown Oxnard with a bare-bones budget. The navy provided space for the monument's supplies and equipment in a warehouse at Port Hueneme. Don Robinson joined the Rotary Club and became active in the community, giving talks to organizations and participating in activities to acquaint the local citizens with the islands and the National Park

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251 "Memorandum of Agreement between the Department of the Navy and the Department of the Interior relating to Protection of Natural Values and Historic and Scientific Objects on San Miguel and Prince Islands, California," May 7, 1963, CINP Superintendent's files.

252 Lois J. Roberts, *San Miguel Island: Santa Barbara's Fourth Island West* (Carmel, CA: Cal Rim Books, 1991); Elizabeth Sherman Lester, *The Legendary King of San Miguel: The Lesters at Rancho Rambouillet* (Santa Barbara, CA: W.T. Genns, 1974).

253 Dewey Livingston, "Island Legacies: A History of the Islands Within Channel Islands National Park," NPS Historic Resource Study, 2016, 98-99; Ian Williams, Mike Hill, Rob Danno, Reed McCluskey, Mike Maki, Bill Ehorn, and Ann Huston, "The Administrative History of San Miguel Island: The National Park Service on San Miguel from 1963 to 2016," *Western North American Naturalist*, 78 (4) 2018; Reed McCluskey to Chief of Interpretation, CHIS, November 2, 1983, CINP Archives, Cat. 1907, Box 9, Folder 1.

Service. The monument's two boats were moored at nearby Channel Islands Harbor. The fleet consisted of a 28-foot wooden patrol boat, the *Arrowhead*, which the park rangers had been piloting from Cabrillo in the summers to patrol the islands, and a new 41-foot, twin-engine Hatteras boat, *Cougar* (later renamed *Sea Ranger*).[254]

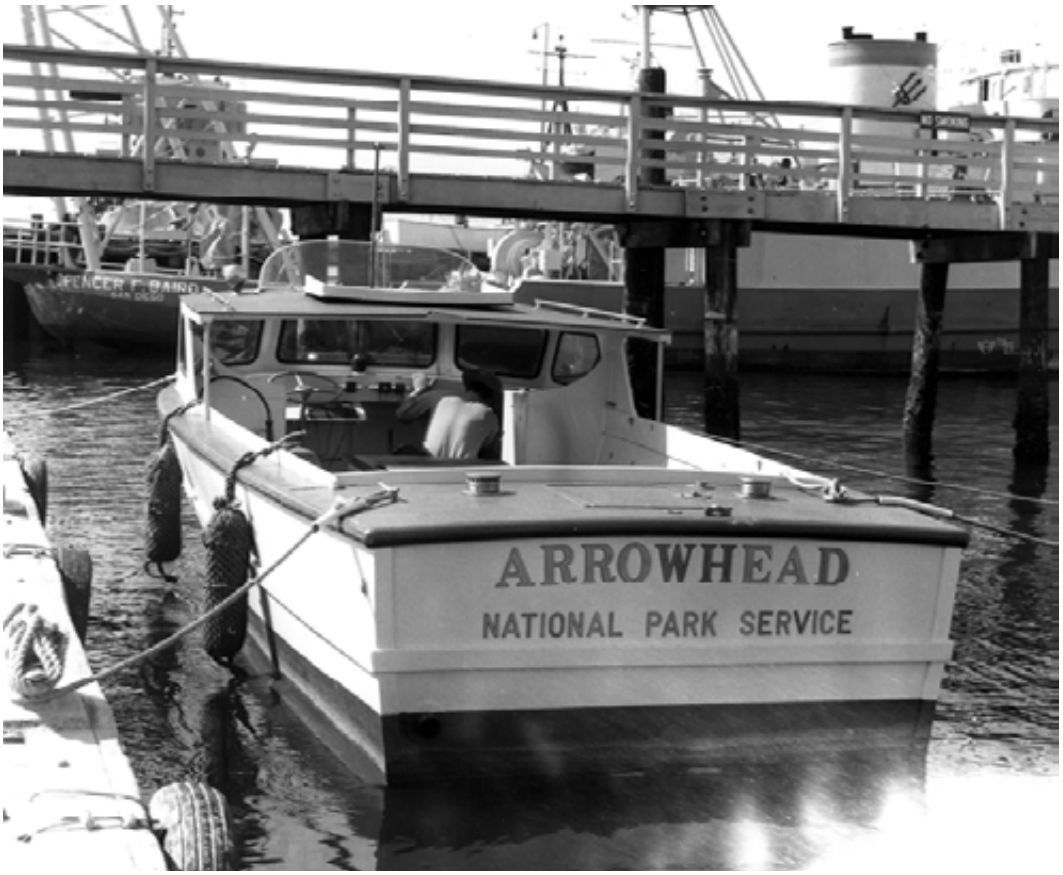

Figure 2-8. The *Arrowhead* was one of the early boats Channel Islands National Monument used to visit and patrol the islands.

Source: Photographer and date unknown. CINP Archives, Acc. 217, Cat. 4459.

254 Superintendent's Annual Report 1967 Fiscal Year, Cabrillo and Channel Islands National Monuments (May 29, 1967); CINP Archives, Cat. 13117, Box 1, Folder 7; Chris Horton interviewed by Timothy Babalis on August 15, 2009 and by Ann Huston on March 30, 2019. Comments by Chris Horton and Craig Johnson to Laura Kirn and Ann Huston, November 5, 2019.

Figure 2-9. The *Cougar* (later renamed *Sea Ranger*) was a new boat that Channel Islands National Monument purchased when the headquarters moved to Oxnard.

Source: Photographer and date unknown. CINP Archives, Acc. 305, Cat. CHIS 6844.013.

In 1968, the Island Packers Company began providing public transportation to the islands, which increased visitation and the need for a Park Service presence on the islands. Rangers were stationed seasonally on Anacapa and Santa Barbara Islands to orient visitors and campers and provide guided walks and information. The rangers also conducted marine patrols around the islands to monitor and protect resources, contact boaters, provide information about the monument, carry out search and rescue operations, and provide assistance where needed. Most of the monument's rangers were also certified divers.[255] With such a small staff, the rangers were responsible for maintaining the island facilities, clearing trails, repairing their boats, shooting rabbits, assisting island researchers, giving talks in the community, and helping to staff an NPS field office in Los Angeles.[256]

In addition to all those duties, the rangers had to enforce regulations that were still ignored by members of the public. Chief Ranger Robert White, who served from 1963 to 1968, recalled:

> *During the offseason we'd hitch a ride with F and G [California Department of Fish and Game]. On one trip we found that someone had shot dozens of seals and sea lions on a beach on Santa Barbara [Island]. Fish and Game found out the captain of*

255 Roger Rudolph (CINM ranger 1969-71), telephone interviewed by Ann Huston, June 19, 2019.

256 George Bowen (CINM ranger 1967-69), "Channel Islands National Monument: As I Remember," manuscript on file at CINP Archives, Cat. 9948. Roger Rudolph (CINM ranger 1969-71), telephone interviewed by Ann Huston, June 19, 2019.

> *the boat involved had fled to Mexico and that the passengers who did the shooting were off duty LA cops! Cops don't talk so no arrest was made.*

Later White and Ranger Tom Hartman accosted a charter fishing boat near Anacapa Island where passengers were shooting sea lions. They "ticketed the captain and got the NPS's first successful conviction in a Ventura court."[257]

Life for the island rangers, however, was difficult. Future superintendent Thomas Tucker, on detail to Cabrillo National Monument in 1962, assumed supervision of the operation on Anacapa Island that year. He later recalled that the rangers lived in very primitive conditions:

> *We were so poor we had no equipment. The two rangers who had been at Channel Islands the year before had existed, not subsisted, but existed in a 9 x 9 umbrella tent. And the winds at Channel Islands were pretty fierce so probably midway in the summer that tent was really air conditioned...the seams had all ripped out and the panels kind of flopped in the wind. There was no transportation. The rangers got there by virtue of an arrangement that the superintendent [Donald Robinson] had with an operator [who had a] water taxi called the Cinnamon Bear...the rangers would be dropped there...they were like vagrants [with] no visible means of support.*[258]

The rangers made occasional patrols out to San Miguel Island under the 1963 agreement with the US Navy. They often carried supplies for researchers Robert DeLong and Burney LeBoeuf at Point Bennett and occasionally assisted them in tagging elephant seals and other activities. Protecting the sea lions and elephant seals on Anacapa and San Miguel Islands from poachers and people trying to capture them for zoos and marine parks sometimes led to run-ins with gun-toting boaters.

The Gherini Development Plan and Proposals for National Park Status

On September 5, 1965, the Department of the Interior formally announced its intention to seek national park status for the Northern Channel Islands.[259] Since San Miguel's future appeared secure, if not well-defined, attention turned to the larger islands. An NPS study team made a ground reconnaissance of Santa Rosa later that same year, the first time that NPS staff had ever visited this island for official purposes. The inspectors were less than impressed, concluding that Santa Rosa Island did not warrant becoming part of the national park system. The team, however, never prepared a full report of its findings, nor did it explain the reasoning behind its negative assessment that ultimately had little consequence.[260]

The park proposal received another strong boost at the end of 1965, when Pier Gherini presented plans to the Santa Barbara County Planning Commission for developing his family's

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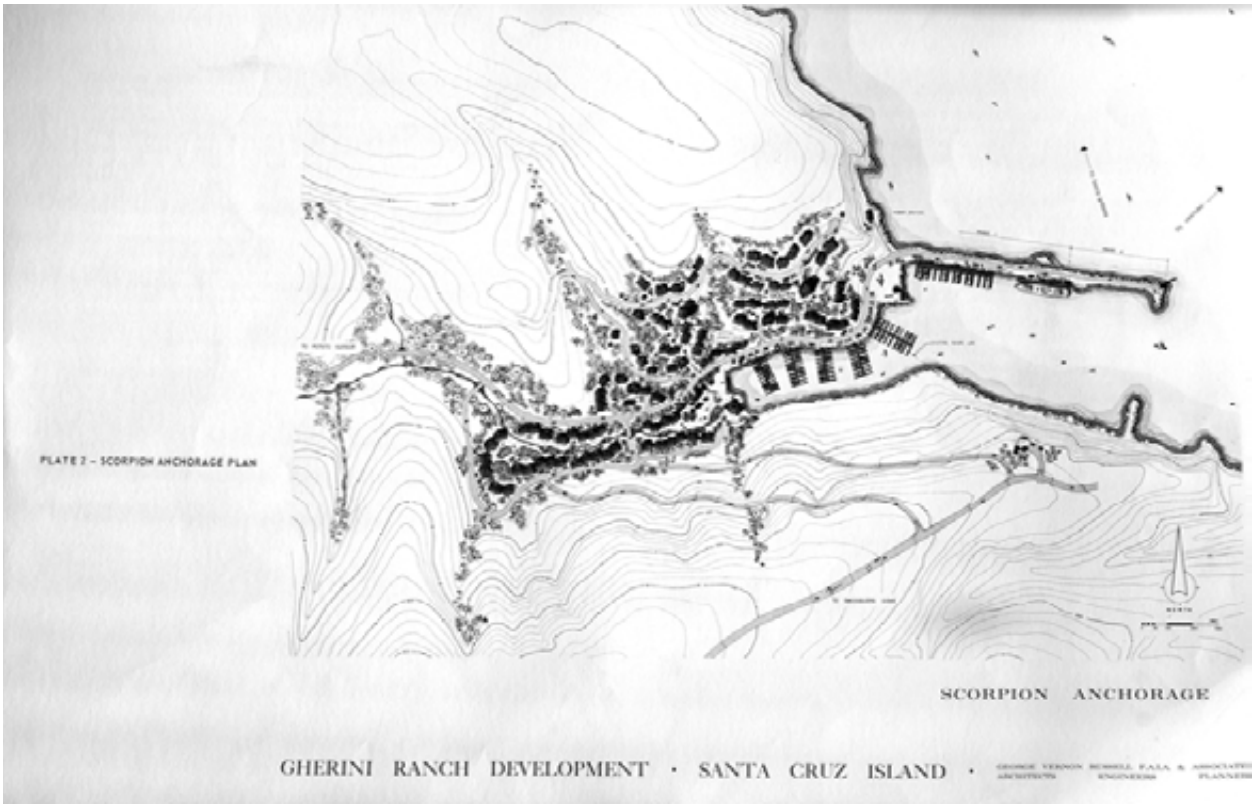
257 Letter Robert White to Chief Ranger, CINP, n.d. The letter is now in the possession of Chief of Cultural Resources Laura Kirn. It does not give exact dates for the incidents mentioned nor is it dated itself.

258 Thomas Tucker quoted in Susan Collins Lehmann, An Embarrassment of Riches: The Administrative History of Cabrillo National Monument, 1987, https://www.nps.gov/parkhistory/online_books/cabr2/adhi7.htmhttps://www.nps.gov/parkhistory/online_books/cabr2/index.htm Accessed April 12, 2019.

259 Secretary DOI, "Proposed Channel Islands," 5.

260 Ibid., 6.

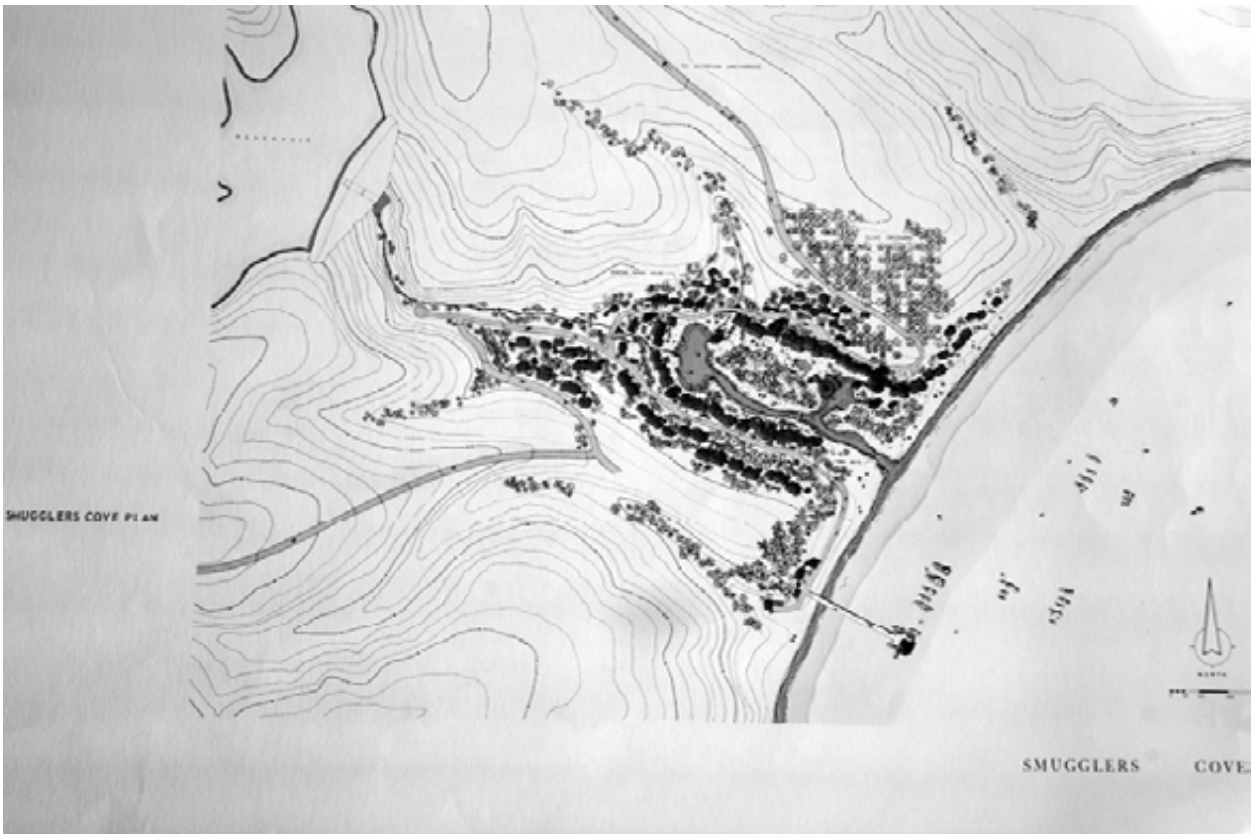
property on East Santa Cruz Island. The plans had been prepared by architect George Vernon Russell and envisioned a recreation-oriented development covering approximately 6,000 acres but concentrated in two villages—one at Scorpion Valley and the other at Smugglers Ranch—with a combined population of 3,000 people. Both villages would include a boat pier, while Scorpion would also have a marina with slips for 150 vessels. The historic ranch buildings would be rehabilitated for commercial purposes, with the adobe ranch houses slated to become cafes. The development would also include an airstrip and recreational facilities such as equestrian trails, a golf course, and hunting lodges. Since the proposed action would require an amendment to the county's General Plan, which at that time designated the entire island for agricultural and open space purposes, the Planning Commission opened the proposal to public debate in a series of four hearings.[261]



Map 2-2a. In the 1966, Pier Gherini proposed a plan to develop a residential complex at Scorpion Anchorage. The NPS opposed it, Santa Barbara County approved it, but the high cost derailed the project. George Vernon Russell, FAIA, and Associates, "A Master Plan for the Gherini Ranch Development, Santa Cruz Island,"

Source: "A Master Plan for the Gherini Ranch Development, Santa Cruz Island," Plate 2. CINP Library.

261 Gherini, *Santa Cruz Island*, 202-206.



Map 2-2b. The Gherini Plan also included a development at Smugglers Cove.

Source: Ibid, Plate 4.

Reaction was mixed. Environmental groups like the Sierra Club and The Nature Conservancy opposed the plan, but many private landowners and local businessmen supported it. The National Park Service, of course, was alarmed and opposed the idea, since it would greatly complicate its own interest in obtaining the island for a national park. At the very least, approval of the plan could significantly increase the appraised value of the property, while, at the worst, its implementation might render the island no longer appropriate for park purposes. In response, the NPS's Western Office of Design and Construction (WODC) hurriedly prepared its own "Preliminary General Management Plan" for Santa Cruz Island. This was not based on any first-hand reconnaissance and reflected only a general understanding of the island itself, but it revealed the agency's own interest in recreational development, which was still a priority in agency culture at that time.[262] The National Park Service was represented at the Planning Commission hearings by Assistant Regional Director Leo Diederich, who testified against the Gherini plan. Diederich did not object because it represented too much development, but because the proposed development was private rather than public. He explained that the NPS's own plan would provide nearly the same recreational amenities, located in the same or similar places but would not include residential development. The greatest difference was access. The National Park Service development would be open to everyone, while the Gherini project was

262 This was changing. Conrad Wirth, who had promoted the most intensive development program in the Park Service's history with Mission 66, retired in 1964, and George Hartzog became director. Stewart Udall, who had become Secretary of the Interior in 1961, was critical of the development priorities of Wirth.

essentially a private resort.[263] However, the National Park Service could not say when it might be able to implement its plans because it did not own the island yet. It only hoped that private development might be delayed long enough for legislation to be passed making Santa Cruz Island part of an expanded Channel Islands National Park. The urgency of accomplishing this was now apparent to everyone who wanted to see the park established.

The County Planning Commission saw no reason to delay and approved the Gherini plan on January 12, 1966, contingent only on an amendment to the County General Plan allowing the island to be rezoned from agricultural to commercial and residential use. Three months later, the County Board of Supervisors upheld this amendment, and the Gherinis were legally free to begin building their resort. They never did. The proposed development proved far too expensive to implement. Whether Pier Gherini was aware of this when he applied to the county for approval or only discovered it later remains a matter of conjecture. The most important consequence of the entire affair was the attention it drew to the island, both from the general public and from the National Park Service. It also greatly increased interest in establishing a national park there. During the following three sessions of Congress, from 1966 through 1970, a total of 11 bills were introduced to establish a Channel Islands National Park. In 1968, the Bureau of Outdoor Recreation (BOR) prepared a study of the Channel Islands as part of a nationwide survey of islands. Consistent with the National Park Service's own conclusions, the BOR recommended national park status for the five northern islands. The BOR study team synthesized existing documentation possessed primarily by the National Park Service, the US Coast Guard, and the Santa Barbara County Planning Commission including the development plan for Santa Cruz Island that the National Park Service had presented to the county the previous year. Since little or no field investigation went into this study, the final report contained significant errors.[264]

No additional studies of the proposed Channel Islands National Park were initiated by the National Park Service after 1965, even though the lack of first-hand information about the two largest islands had become the most significant obstacle stymieing legislative progress. Acknowledging this need, Senator Alan Cranston of California introduced a study bill in 1970 to the 91st Congress. In a letter to NPS Director George Hartzog, Senator Cranston said the following about the bill:

> *First, it would put the public, including land developers and oil companies on notice that Congress is serious about trying to preserve the Channel Islands for public use. Second, it provides a basis for your appraisers (or planners) to gain physical access to the private properties which they must have to make an appraisal (or provide input for a new area proposal) which measures up to professional standards.*[265]

Although Cranston's study bill did no better than any of the previous park bills, it at least indicated what was required for significant progress to be made—access to the islands themselves, which could only be obtained with the cooperation of existing landowners.

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263 Gherini, *Santa Cruz Island*, 202-206.

264 DOI, Bureau of Outdoor Recreation, "Channel Islands, California: Island Study," February, 1968, Pacific West Regional Office Library, San Francisco; Secretary DOI, "Proposed Channel Islands," 6.

265 Secretary, DOI, "Proposed Channel Islands," 7.

Don Robinson made efforts to meet with the owners of Santa Cruz and Santa Rosa Islands. As superintendent of the combined monuments from Cabrillo, he had enjoyed a good relationship with Edwin Stanton, then owner of 90% of Santa Cruz Island.[266] But with Edwin's death in 1963, his son Carey assumed management of the island operations and moved to the Main Ranch. On a visit to the island, Robinson pondered the expensive antique furnishings and original artwork and made a comment on where the superintendent's office would be once the National Park Service took over the island. This deeply antagonized Carey Stanton, who had formed a poor opinion of the National Park Service when he once tried to visit Anacapa Island and found it closed and with a lot of trash scattered around. Robinson's thoughtless remark reinforced Stanton's negative opinion of the monument and the National Park Service. Nor had Robinson endeared himself to Francis Gherini, whose family owned the east end of Santa Cruz Island, and whose law office was located across the hall from the monument's Oxnard office.[267]

With relations between the National Park Service and the private landowners rapidly deteriorating during Don Robinson's superintendency, access to the larger islands became difficult. In fact, so tense had the relationship between government officials and private landowners become that Secretary of the Interior Stewart Udall quipped that he would have to watch out for anti-aircraft fire during an aerial reconnaissance.[268] The situation was exacerbated a few years later when the National Park Service supported an amendment to a park bill that would have given it "...legal authority to enter on private property against the owner's will for the purpose of collecting data."[269] This threat served only to anger private property owners, especially Ed Stanton's son Carey, who was already ill-disposed toward government authority. Although the bill failed, it would be years before NPS relations with Carey Stanton recovered.[270]

266 Jeff Robinson (son of Don) personal communication to Ann Huston, July 10, 2019.

267 Chris Horton interviewed by Timothy Babalis, August 15, 2009. Transcript on file at CINP Archives; Chris Horton comments to Laura Kirn and Ann Huston on November 5, 2019.

268 The comment, which was reported in the press, was resented by the landowners and sternly rebuked by Carey Stanton and Pier Gherini. Gherini, *Santa Cruz Island*, 217-219.

269 Amendment to H.R. 3645, introduced by Congressman Moss to the 93rd Congress (1973-74); Secretary DOI, "Proposed Channel Islands," 8.

270 Secretary DOI, "Proposed Channel Islands," 8.

Figure 2-10. Superintendent Don Robinson with a Japanese visitor.

Source: Photographer and date unknown. Courtesy of Jeff Robinson.

As the National Park Service sought ways to expand Channel Islands National Monument and develop visitation on the islands it did manage, signs of the unit's maturation and popularity brought local changes. In May 1967, the Channel Islands National Monument headquarters had moved from San Diego to Oxnard. Toward the end of Robinson's tenure, the Ventura Port District, in a bid to attract business to the newly constructed marina, offered the monument the use of a three-bedroom house in the Ventura harbor, along with berths to moor the monument's boats. Following a period of great staff discontent and a regional investigation into ethics violations, Don Robinson retired in April 1974 and John O. Cook took over as acting superintendent until the arrival of Superintendent William H. Ehorn on June 23.[271]

271 Livingston, "Island Legacies," 39; Comments from Chris Horton to Laura Kirn and Ann Huston on November 5, 2019; Chris Horton, interviewed by Timothy Babalis, August 15, 2009, transcript in CINP Archives.

CHAPTER THREE

Establishing the National Park

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CHAPTER THREE: ESTABLISHING THE NATIONAL PARK

Rapid growth in California's population and economy during the post-war years greatly intensified development, especially along the coast near urban centers such as San Diego, Los Angeles, and the San Francisco Bay Area.[272] The resulting crowding as well as pressure on natural and historic resources underlined the need for better-regulated, more regionally coordinated planning. At first, this was not intended to curb or even slow development, but simply to guide the forms it took. Nevertheless, a popular backlash was also forming in reaction to some of the more excessive development schemes that were threatening the natural and scenic resources of the state. Proposals to fill in most of the San Francisco Bay tidelands, for example, resulted in some of the earliest systematic regulation of the coastal zone in California. The state legislature was debating these issues even as the Gherini family's proposed development of East Santa Cruz Island was under discussion in the mid-1960s. Additional legislation over the next two decades introduced more mechanisms to control growth and protect resources, both at the state and national levels. Many of these regulatory measures directly affected the Channel Islands, offering greater protection for marine resources in the Santa Barbara Channel and preservation of open space along the coastline. Indirectly, the growing support for protective regulation and comprehensive planning that these laws represented contributed to interest in expanding the national monument, because the National Park Service could provide similar, if not even greater, protection through its management policies.

LEGISLATIVE ACTS

McAteer-Petris Act (1965)

Infilling San Francisco Bay, which had begun as early as 1850 with the reclamation of Yerba Buena Cove to extend San Francisco's waterfront district, increased dramatically in the post-World War II decades. By 1960, only 400 of the bay's original 680 square miles still existed. By that time, various plans were being considered that would have eliminated the bay altogether as a natural estuarine system. The most widely publicized of these proposals, the Reber Plan, would have created massive saltwater barriers to convert most of the bay into freshwater lakes while filling much of the remainder. Ideas such as this galvanized public opposition and led eventually to the passage of the McAteer-Petris Act of 1965, which established the Bay Conservation and Development Commission (BCDC) for the purpose of developing "...a comprehensive and enforceable plan for the conservation of the water of the Bay and the development of its shoreline." The commission, which became permanent in 1969, was the earliest significant effort by the state government to provide systematic regulatory control for

272 General sources on WWII and postwar urban development in California include Roger W. Lotchin, *Fortress California, 1910-1961: From Warfare to Welfare* (Oxford, UK: Oxford University Press, 1992); Carl Abbott, *The Metropolitan Frontier: Cities in the Modern American West* (Tucson: University of Arizona Press, 1993); and Arthur C. Verge, "The Impact of the Second World War on Los Angeles," *Pacific Historical Review* 63(3) 1994, 289-314.

the conservation of coastal marine resources. It served as a precedent for future and more comprehensive, regulatory and planning efforts throughout the state's coastal areas.[273]

Marine Resources Conservation and Development Act (1967)

Only two years after the McAteer-Petris Act, the state legislature passed the California Marine Resources Conservation and Development Act.[274] This legislation established an advisory commission to guide and coordinate planning on all matters relating to marine and coastal resources. The advisory commission was similar in purpose and intent to the BCDC but was responsible for the coastal regions of the entire state. The California Marine Resources Conservation and Development Act also required the governor to prepare a Comprehensive Ocean Area Plan within five years (that is, by 1972).

The Stratton Commission (1966–1969)

On the national level, interest in the formal management of coastal marine resources was presaged as early as 1945 with President Truman's executive order extending federal jurisdiction and control over the continental shelf contiguous to the coasts of the United States.[275] Efforts to provide comprehensive planning for the development of these resources, however, did not begin until the late 1960s, about the same time that California was becoming interested in regulating its own coastal resources and for the same reasons. In 1966, Congress passed the Marine Resources and Engineering Development Act which, among other things, established the Commission on Marine Science, Engineering and Resources, popularly known as the Stratton Commission after its chairman, Julius A. Stratton of the Ford Foundation.[276] The primary purpose of the commission was to prepare a report that would summarize the nation's interests in relation to both the ocean at large and its contiguous coastal marine resources.

This report, which proved widely influential over the next few decades, was completed in 1969.[277] Titled *Our Nation and the Sea: A Plan for National Action*, it included an entire chapter on management of the coastal zone. It had a direct bearing on the interests of states such as California that possessed a marine coastline. The Stratton Commission recognized that these areas had experienced substantial pressure from recent population growth and unrestrained development and therefore presented "... some of the most urgent environmental problems and the most immediate and tangible opportunities for improvement."[278] The solution, in the opinion of the commission members, lay with improved knowledge of the resources themselves and more extensive planning and regulatory authority to protect and manage those resources. A

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273 Jonathon Gurish, *Overview of California Ocean and Coastal Laws* (Oakland, CA: California Ocean Protection Council, 2007); Alan M. Paterson, "The Great Fresh Water Panacea: Salt Water Barrier Proposals for San Francisco Bay," *Arizona and the West* 22 (4) 1980, 307-322; Stanley Scott, ed., *Coastal Conservation: Essays on Experiments in Governance* (Berkeley: Institute of Governmental Studies, University of California, 1981); L. Martin Griffin, *Saving the Marin-Sonoma Coast: The Battles for Audubon Canyon Ranch, Point Reyes, & California's Russian River* (Healdsburg, CA: Sweetwater Springs Press, 1998).

274 California Stat. Ch. 1642 (repealed in 1976).

275 Presidential Proclamation 2667 of September 28, 1945, "Policy of the United States with Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf," 10 *Federal Register* 12.303, October 2, 1945.

276 Public Law 89-454, enacted by Congress on June 17, 1966.

277 US Commission on Marine Science, Engineering, and Resources, *Our Nation and the Sea: A Plan for National Action* (Washington, DC: Government Printing Office, 1969).

278 States that bordered on the Great Lakes were also considered to possess a coastal zone as defined by the commission; Stratton, Julius A. et al. *Our Nation and the Sea: A Plan for National Action* [H. Doc. No. 91-42, "Report of the Commission on Marine Science, Engineering and Resources," 91st Cong., 1st. Sess.]. Washington, DC: Government Printing Office, 1969, 8.

lack of coordination or effective cooperation among existing local, state, and federal authorities stymied the realization of these objectives. Rather than impose a more powerful federal authority to consolidate management responsibilities, the commission believed that the coastal zones should continue to be managed at the local level and recommended instead that the federal government act "...to facilitate the establishment of State Coastal Zone Authorities empowered to manage the coastal waters and adjacent land."[279] It also recommended that local universities and research institutions be supported by federal assistance to develop the knowledge base needed to manage the resources of the coastal zone effectively.

The 1969 Oil Spill and its Aftermath

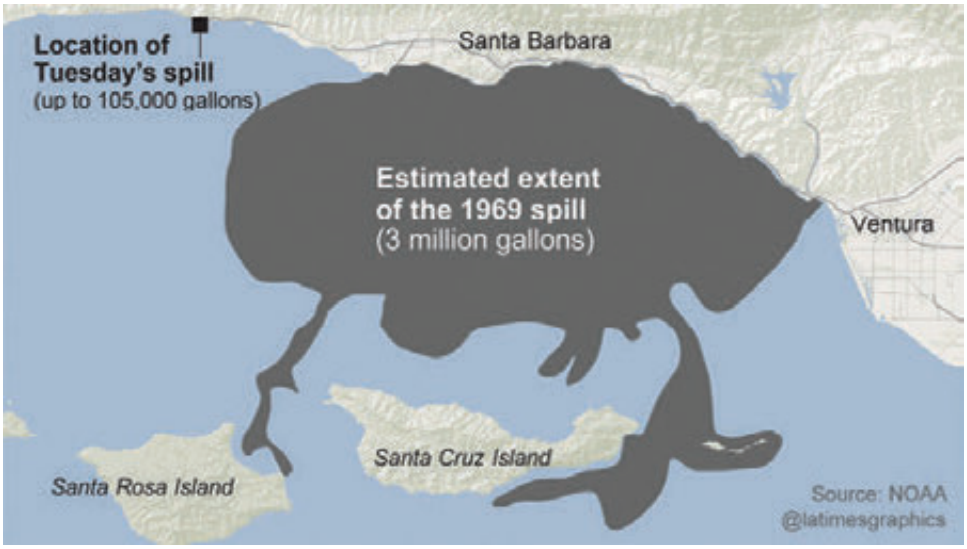
The search for a substitute for whale oil began by the middle of the 19th century as the number of cetaceans declined. The answer was petroleum, which could be found under the surface of the earth in myriad locations. Exploration began in the early 1850s in Pennsylvania, and the first discovery using mechanical drilling methods occurred at Titusville in 1859. The oil seeps with which the Chumash caulked their *tomols* and later settlers used for many purposes were widely known and prized. Before the end of the century, dozens of wells tapped terrestrial sources in Southern California. In October 1947, Louisiana saw construction of the first offshore oil rig in the United States. The Santa Barbara Coal Oil Seep releases approximately 100 to 150 barrels of liquid petroleum and 32,000 cubic feet of natural gas daily. Platform Hazel, the first drilling platform off Santa Barbara County, was installed in 1958 offshore from Carpinteria. Eight other platforms and other facilities were installed in state tidelands off Santa Barbara County between 1958 and 1966. Despite local protests, Phillips Petroleum Company, Continental Oil & Refining Company, and Cities Service Company acquired the first federal Outer Continental Shelf (OCS) lease in the Santa Barbara Channel south of Carpinteria in 1966. Union Oil began drilling at Platform A, six miles off the coast, shortly thereafter.[280]

On January 28, 1969, Platform A suffered a blowout that began what was at the time the worst oil spill in US history. The spill continued for 11 days, with lesser leaks continuing for months thereafter. Seabirds, seals, dolphins, kelp beds, and miles of beaches were coated with crude oil. In the end, an estimated 80,000 to 100,000 barrels leaked out affecting 35 miles of the California coastline. Winds and swells spread the oil over hundreds of square miles of open water and it eventually impacted mainland shorelines from Pismo Beach north of Santa Barbara to Silver Strand Beach at San Diego. Offshore kelp forests saved some beaches by intercepting much of the crude flowing toward the shores. Nevertheless, oil surrounded Anacapa Island, including the tidepools at Frenchy's Cove, and also hit beaches on Santa Cruz, Santa Rosa, and San Miguel Islands. It clogged the blowholes of some dolphins causing their lungs to hemorrhage. Other animals that ingested the oil were poisoned. Wildlife rescuers at one point counted some 3,600 dead ocean-feeding seabirds. A number of poisoned seals, sea lions, and some dolphins washed up on the shorelines. The spill killed innumerable fish and intertidal invertebrates, ruined kelp forests, and displaced many endangered birds. *Life*

279 Ibid., 57.

280 A barrel of oil contains 42 US gallons; Santa Barbara Maritime Museum exhibit, "The Santa Barbara Oil Spill," Accessed by Lary Dilsaver October 10, 2018; County of Santa Barbara Planning and Development, "Brief Oil and Gas History of Santa Barbara County," http://www.countyofsb.org/energy/information/history.asp, Accessed September 9, 2009.

Magazine reporters visited San Miguel Island and counted over 100 dead California sea lions and other pinnipeds on one stretch of oil-covered beach four months after the blowout.[281]



Map 3-1. On January 28, 1969, Union Oil Platform A in the Santa Barbara Channel began spilling millions of gallons of oil into the sea. The spill killed a large number of seabirds and pinnipeds and galvanized an environmental movement with significant legal results. The map also shows the location of a smaller oil spill in 2015.

Source: NOAA, Map from *Los Angeles Times*, May 20, 2015.

President Richard Nixon was among the cadre of federal and state officials to visit the disaster scene. The national press and television media closely followed the story and produced emotional images and descriptions of people trying to sop up the oil and save injured species. Many sadly asked, "What are we doing to our environment?" Politicians pondered the potential political outfall of the spill. After a helicopter tour, Nixon visited a mostly cleaned-up beach in Santa Barbara. Nixon told the assembled reporters and angry local citizens:

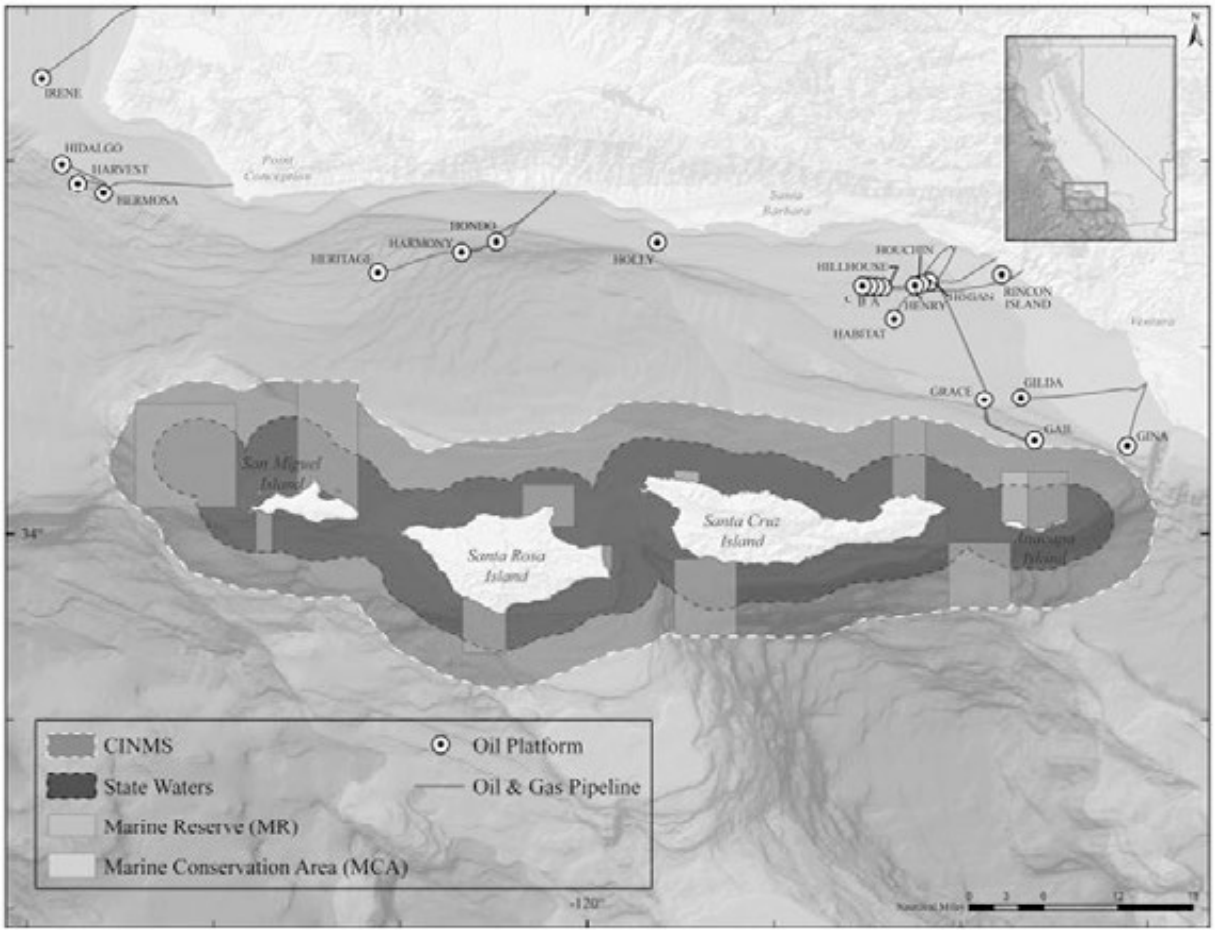
> *This problem is bigger than just Santa Barbara. We need more effective control to protect our beauty and natural resources. I don't think we've paid enough attention to this.*[282]

Environmentalists, Democratic politicians, and scientists arrived in Santa Barbara and all had plenty to say about the weak regulations that ruled the oil industry. Secretary of the Interior Walter Hickel refused to comply with a demand to remove all offshore drilling rigs by a new environmental protest group, "Get Oil Out." Union Oil's President Fred Hartley, dismissed their concerns by pointing out that no people had died, which compared favorably to the murders that routinely happened in Washington, DC. But the environmental catastrophe set off a spark in the national populace. Over the next three years, an amazing series of environmental laws were passed, both nationally and in California. The National

281 "Santa Barbara Oil Spill 1969," *Los Angeles Times*, February 22, 2016; County of Santa Barbara, "Brief Oil and Gas"; More recently, the 1989 Exxon Valdez and 2010 BP/Deepwater Horizon spills have surpassed the volume of oil released in the Santa Barbara event; George Bowen, "Channel Islands National Monument: As I Remember," Unpublished manuscript in CINP Archives, Cat. 9948.

282 "Santa Barbara Oil Spill 1969," *Los Angeles Times*, February 22, 2016.

Environmental Policy Act and its state version, the California Environmental Quality Act (CEQA), were among the legal products of the increased environmental activism energized by the oil spill. A decade of other laws to protect the sea and its denizens have also rewritten the ways that companies and governments can affect the marine environment.[283]



Map 3-2. Oil rigs in the Santa Barbara Channel in 2020.

Source: CINMS, "Condition Report 2016".

283 Ibid.

Coastal Zone Management Act (1972)

In 1972, three years after the Stratton Commission published its report, Congress enacted the Coastal Zone Management Act (CZMA), putting into effect most of the commission's recommendations relating to the management of coastal areas.[284] Two years earlier, President Nixon had realized the commission's most important recommendation with the creation of a new federal agency, the National Oceanic and Atmospheric Administration (NOAA), in which the majority of governmental responsibilities relating to marine and coastal resources were consolidated. Among these responsibilities was the administration of the CZMA. Consistent with the Stratton Commission's insistence that the federal government not mandate local management prerogatives, the CZMA simply provided incentives for states to establish their own programs for managing their coastal area. However, it did stipulate that NOAA, as the administering federal agency, review these programs for consistency with the federal guidelines and standards as defined by the act. These guidelines established a number of broad priorities, including the protection of natural and cultural resources, the protection of people and property from natural hazards, public access to coastal areas, improvement of coastal water quality, and encouragement of coastal-dependent uses wherever development does occur. The incentives provided by the program in the form of grants and other funding depended on the states' continuing adherence to these standards.[285]

One notable feature of the CZMA reflecting its genuine desire to ensure state authority over management of coastal resources is the federal consistency provision.[286] This stipulates that any federal action that might have an effect on resources within the state's coastal zone must be consistent with the standards and policies established by that state in its coastal plan, provided that this plan has been approved by NOAA, the federal authority administering the CZMA. The state has the authority to review the proposed actions of federal agencies for consistency with its management plans. This requirement was clearly relevant to the National Park Service, which possessed lands at Channel Islands National Monument directly within the state's coastal zone, as well as other coastal national park system units, such as Cabrillo National Monument, Redwood National Park, Point Reyes National Seashore, and Golden Gate and Santa Monica Mountains National Recreation Areas. CZMA also affected the Minerals Management Service (since 2010 split into three new federal agencies: the Bureau of Ocean Energy Management, the Bureau of Safety and Environmental Enforcement, and the Office of Natural Resources Revenue) that administered oil and gas leases on the outer continental shelf. Even though these leases lay outside the state's three-mile seaward limit, they still posed a reasonably foreseeable effect on the state's coastal zone and were therefore subject to consistency review.[287]

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284 US Stat. 1280, enacted Oct. 27, 1972 (16 USC)

285 US Commission on Ocean Policy, "The Evolution of Ocean Governance Over Three Decades," Appendix 6 in *An Ocean Blueprint for the 21st Century* (Washington, DC: Government Printing Office, 2004) 17ff.

286 16 USC § 1458 (c)-(d).

287 US Commission on Ocean Policy, "Appendix 6," 21-22. The susceptibility of OCS leases to consistency review was later challenged in court.

California Coastal Act (1976)

In the same year that the federal CZMA was enacted, California completed its Comprehensive Ocean Area Plan, mandated five years earlier by the Marine Resources Conservation and Development Act. Shortly thereafter, California voters approved Proposition 20, the Coastal Zone Conservation Act, establishing a Coastal Zone Conservation Commission that assumed responsibility for the planning activities previously undertaken by the 1967 Advisory Commission on Marine and Coastal Resources. The Marine Resources Conservation and Development Act, which had also created the advisory commission, was then repealed because its principal objectives had been achieved. The new Coastal Zone Conservation Commission was originally intended as a temporary institution, authorized by its enabling legislation for only four years, but in 1976 it was extended indefinitely following passage of the landmark California Coastal Act. This reauthorized the original commission, with greatly enlarged responsibilities as the more-concisely named California Coastal Commission.[288] It acts as the state's principal management and regulatory agency within the coastal zone. The California Coastal Act also created a Coastal Conservancy, which was designed to serve as the constructive counterpart of the Coastal Commission by undertaking or promoting active habitat restoration and enhancement projects as well as protecting coastal resources and public access through the purchase of privately owned lands and easements.[289]

Although the California Coastal Act had direct local precedents dating at least to the mid-1960s, many of its principal features derived from the federal CZMA with which it was closely aligned. Drafting the Coastal Act began shortly after 1972, the year that the CZMA was enacted, and the process reflected efforts by existing state and local commissions to develop a "comprehensive enforceable plan for the orderly, long-range conservation and management of the coast," as mandated by Proposition 20 but following the guidelines recently established by the CZMA.[290] The Coastal Act required that all cities and counties having a portion of their areas located in the coastal zone must prepare a Local Coastal Plan (LCP). This comprehensive management document includes a land use plan and all relevant zoning ordinances, maps, and other legal instruments needed to implement the plan. Each LCP must be reviewed and approved by the Coastal Commission before it can go into effect. This, and subsequent oversight to ensure compliance, was probably the most important regulatory function of the commission. No development could legally occur in the coastal zone until the local government's LCP had been approved. The authority to issue permits for development was delegated to the local government once this happened. The Coastal Commission also had the responsibility of reviewing federal activities that might have a significant effect on the coastal zone to ensure consistency with the state's coastal management program.[291]

The process of developing a Local Coastal Plan for Santa Barbara County, which includes all of the Northern Channel Islands except Anacapa (Ventura County), began in January 1977. The county board of supervisors adopted the completed draft three years later in January 1980, and submitted it to the Coastal Commission for review. At that time, the Channel Islands National Park bill that would expand the national monument to include all of the northern archipelago,

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288 Pub. Res. Code §§30000 et seq.; Gurish, *Overview of California Ocean and Coastal Laws*, 20-29.

289 Gurish, *Overview of California Ocean and Coastal Laws*, 23; see also the Conservancy's Internet homepage at http://scc.ca.gov.

290 Santa Barbara County, "Coastal Land Use Plan 1982," (republished 2009 and 2014).

291 Gurish, *Overview of California Ocean and Coastal Laws*, 21-22.

was approaching its final form in Congress and was considered almost certain to pass. In this context of growing interest for the natural and scenic values of the islands, the Coastal Commission refused to approve the county's plan, claiming that the proposed plan failed to provide adequate protection from development that would threaten these values. The draft county plan included the Channel Islands within its Agriculture II land use zone. This reflected existing land use practices on Santa Cruz and Santa Rosa Islands, both of which were expected to be included in the proposed national park, but that zoning category would also allow construction of new houses in clustered developments with densities of one dwelling for every two acres of land, amounting to as many as 2,300 new houses that could be built on both of the large islands. The Agriculture II zone also allowed oil and gas development. The Coastal Commission acknowledged that this level of development might be appropriate for similar agricultural lands on the mainland but did not consider it appropriate for the Channel Islands, which it felt merited special consideration on the basis of their unique values.[292]

The Coastal Commission's concerns about further development of the Channel Islands was more than just hypothetical. The Vail & Vickers Company, which owned all of Santa Rosa Island, had recently applied to the county for permission to allow residential development of the island.[293] While this may have been a strategy to raise the appraised value of their property in anticipation of future sale to the federal government, it nevertheless represented a legitimate threat to the preservation of the archipelago's rural character. Moreover, the county generally supported this and similar development proposals, in contrast to the Coastal Commission, and later threatened litigation against the state in response to pressure from the private landowners. The county even accused the Coastal Commission of collaborating with the National Park Service to support the latter's interest in acquiring private property on the northern islands, though there is no evidence to support this contention. Although Santa Barbara County eventually modified its land use plan to reduce potential residential development on the Channel Islands to densities of no more than one dwelling per 320 acres, the Coastal Commission still refused to endorse the proposal. Once the park bill had passed, however, the Coastal Commission acknowledged that the Channel Islands were at least nominally protected under federal authority and certified the county's LCP as it applied to the mainland portions of the coastal zone only, while deferring certification of the island portions of the zone.[294]

As regulatory mechanisms for the protection of coastal resources grew increasingly sophisticated during the 1970s, momentum for the creation of a Channel Islands National Park, encompassing all of the northern group of islands, also picked up. This renewed interest came after a lull at the end of Don Robinson's superintendency and was closely associated with the greater energy brought to the administration of the monument by the superintendent who replaced him. But as critical as the personality of each superintendent was to this momentum, the eventual success of the park act remains inconceivable without the broader context of growing public concern over resource protection represented by this legislative history.

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292 Santa Barbara County, "Coastal Land Use Plan 1982."

293 See Senator Wallop's statement in the "Hearing before the Subcommittee on Parks, Recreation, and Renewable Resource of the Committee on Energy and Natural Resources, US Senate, 96th Congress, 1st Session, on S.1104," July 19, 1979, 87-88.

294 Santa Barbara County, "Coastal Land Use Plan 1982"; California Coastal Commission, Technical Services Division, "LCP Status, South Central Coast Area as of July 1, 2011," www.coastal,ca.gov. Accessed May 4, 2014.

SUPERINTENDENT BILL EHORN

In 1974, the year that Don Robinson retired, Channel Islands National Monument still consisted of only two islands—Anacapa and Santa Barbara. The weak agreement with the US Navy also gave nominal management responsibilities and limited access to the National Park Service on San Miguel Island. Santa Cruz and Santa Rosa Islands, the largest and most diverse of the Northern Channel Islands, remained tantalizing targets for acquisition. Proponents knew that designation as a national park could not be justified without the larger islands because Anacapa, Santa Barbara, and even San Miguel by themselves did not possess enough significance to justify more than monument status. Private ownership of the big islands meant they would have to be purchased or they would have to be condemned and their owners compensated. Either was possible and in fact both mechanisms would be employed eventually, but few politicians were willing to support a park bill that did not have the full cooperation of the property owners. This remained an insurmountable hurdle well into the 1970s because most of the private landowners disliked the National Park Service because of its poor management of the existing monument and did not support a greater role for the agency in the Channel Islands.

This attitude began to change after 1974 with the arrival of a new superintendent, William Ehorn, who vastly improved the quality of management and encouraged better relations with the monument's neighbors. Equally important among Superintendent Ehorn's early accomplishments were his efforts to build the monument's infrastructure and to establish a strong foundation of staff morale. He realized these objectives through projects ranging from improving the facilities on the islands and natural resource management to essential capital improvements such as the construction of a new visitor center. The greater respect his administration brought to Channel Islands National Monument, both within and outside the National Park Service, was an essential precondition for its eventual designation as a national park. Ehorn played such an energetic role, in fact, that many would remember the park act as his greatest accomplishment at the Channel Islands. A Channel Islands National Park that encompassed all or most of the northern islands had been the ultimate intention of nearly everyone involved in the establishment of the original monument since the earliest NPS reconnaissance by Roger Toll and Thomas Vint in 1933. Ehorn did more than any other person to realize its creation.

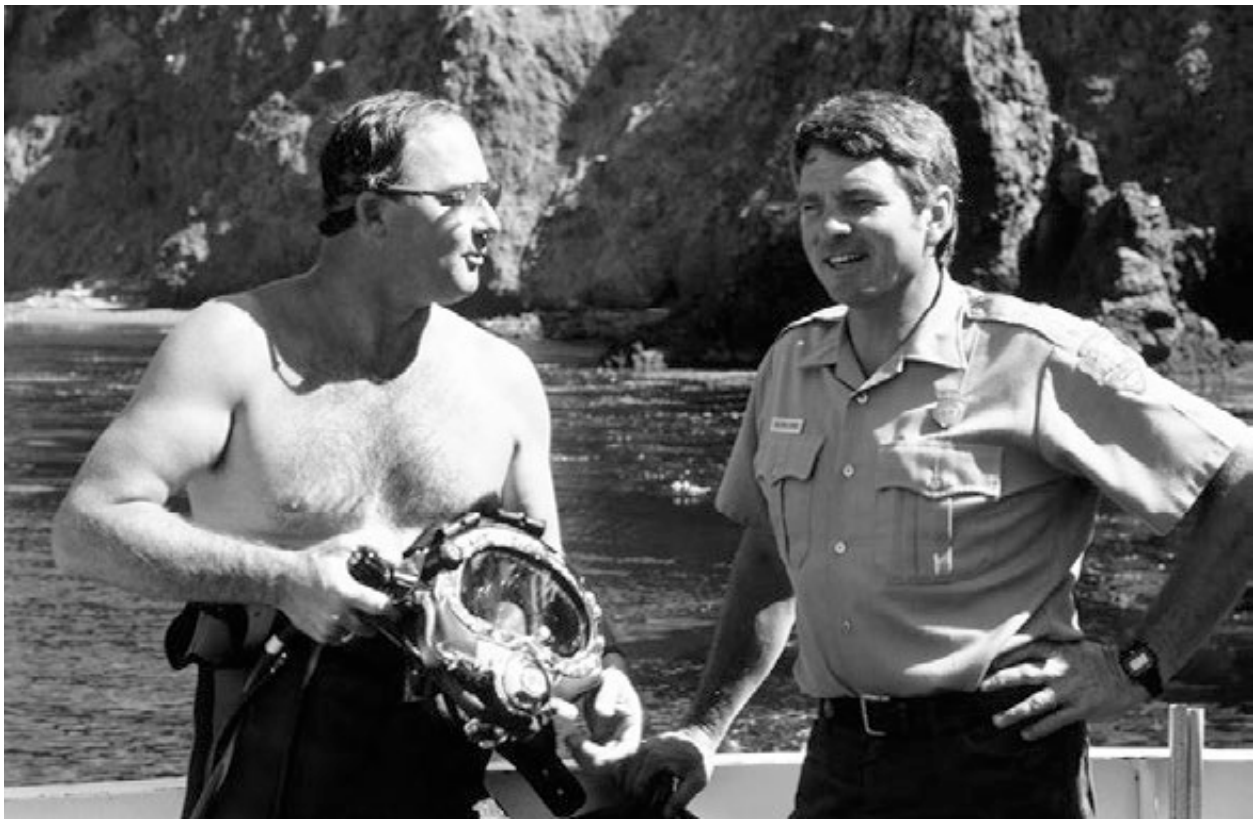

Figure 3-1. Gary Davis preparing to dive and Superintendent William "Bill" Ehorn in conversation.

Source: Photographer and date unknown. CINP Archives, Acc. 343, Cat. 9946.

Building Relations with the Community

Bill Ehorn transferred to Channel Islands in June 1974 from Omaha, Nebraska, where he had been working since 1972 as program manager of the National Park Service's Midwest Regional Office, supervising a $5,000,000 development project. When he arrived to assume the superintendency, the monument headquarters had just moved from the Channel Islands Harbor in Oxnard to its new location in the Ventura Harbor. The staff had increased from five employees to nine permanent employees, two part-time employees, and several seasonals. Norma Dalla Betta had joined the staff as the superintendent's secretary, Bob Besett had come on board as a boat operator, and there were additional rangers and maintenance staff.

Ehorn arrived in Ventura with enthusiasm and an impatience to get things done that proved to be characteristic of his professional career. He began almost immediately to implement plans for a new visitor center in the Ventura Marina. This would provide a dedicated structure to replace the *ad hoc* arrangements that the National Park Service had used since 1967. By October of that year, Congress passed Public Law 93-477, with the support of Congressman Robert Lagomarsino and Senator Alan Cranston, allowing the National Park Service to accept a donation of land from the Ventura Port Authority for 2.5 acres to be used for the proposed facility. The law also authorized an appropriation of just under $3,000,000 for construction.

This appropriation and the scale of the project itself would be modified several times before the visitor center was finally built.[295]

Among the most important and daunting challenges that Bill Ehorn undertook after arriving at Channel Islands was improving relations with the local community, especially the private landowners on the islands themselves. As events would show, Ehorn possessed a natural talent for this sort of diplomacy and addressed himself to the task with a relish that was refreshing after years of controversial management under Don Robinson. Ehorn's energy eventually produced lasting results, though it took several years before the skeptical landowners responded to his overtures with anything approaching trust.

The first fruits of Ehorn's efforts came with Dr. Carey Stanton's grudging approval to allow Ehorn to visit Santa Cruz Island in 1976. This was the first time that any NPS staff had been allowed to come to the Stanton Ranch since Don Robinson's last visit. The occasion was arranged by the US Navy's Ted Green, who at that time was operating the radio communication antennae at the leased facility on the isthmus of Santa Cruz Island. Green had proposed renting surplus communication services to the park and Ehorn wanted to place a repeater on Mt. Diablo. Ted Green, who had a good relationship with Stanton, approached him with the request. Stanton agreed that Ehorn and Green could visit the Mt. Diablo site with his ranch manager Henry Duffield. This was the first time Ehorn had ever seen Santa Cruz Island up close, and he was deeply impressed. Following the visit, Ehorn sent a thank you note to Stanton, who invited Ehorn to meet for lunch on the mainland. At lunch, Ehorn invited Stanton to come visit Anacapa Island and arranged for helicopter transportation for Stanton and Duffield to come to the island, where Ranger Craig Dorman served them a fine lunch of abalone. Stanton reciprocated by inviting Ehorn and his guests NPS Director Gary Everhardt, Regional Director Howard Chapman, and the park's Chief Ranger Mack Shaver to come for cocktails and lunch at his main ranch in the Central Valley. Stanton also invited Al Vail, part-owner and principal manager of the Vail & Vickers Cattle Company on Santa Rosa Island. This was Ehorn's first encounter with Al Vail, and according to Ehorn's recollection, the two men quickly became friends.[296]

295 This and much of the following is based on Bill Ehorn's own account, supplemented by the oral histories of staff who worked with him. See especially, William Ehorn, "The Establishment of Channel Islands National Park," undated typescript, not earlier than 1995, CINP Archives, Acc. 298, Cat. 6835, Folder 39; CINP Superintendent's Annual Reports, March 11, 1976 and March 23, 1978, CINP Archives, Cat. 13117, Box 1, Folder 7.

296 Bill Ehorn comments to Laura Kirn and Ann Huston on November 5, 2019.

Figure 3-2. Island owners from left to right: Russell Vail, John Gherini, Pier Gherini, Carey Stanton, and Al Vail.

Source: Courtesy of John Gherini.

Ehorn's success in winning over the island ranchers had much to do with his management record during the previous two years, which represented a marked improvement over NPS performance on the islands during the preceding four decades. The most noticeable change was simply the attention that the islands now received. Even though negotiations with the US Coast Guard over the transfer of its 160-acre light station on East Anacapa Island remained unresolved until 1983, Ehorn set about repairing and cleaning up the facilities and renovated a small visitor center there, adding professionally produced exhibits. He did the same at Frenchy's Cove on Middle Anacapa Island, where the monument maintained a small ranger station and removed the unsightly waste still littering the area from earlier primary economic activities. Ehorn also renovated the old Quonset hut on Santa Barbara Island and added a small visitor center and ranger station to it.[297] All of these sites had been criticized by local private landowners for their general disarray and poor maintenance under Superintendent Robinson.

During lunch at the ranch house on Santa Cruz Island, Director Everhardt asked Dr. Stanton if he would be willing to sell or donate his share of the island to the National Park Service. Stanton refused, but his response was no longer as angry as it had been when Don Robinson had eyed the ranch house interior and announced that he would enjoy it when it belonged to the government. In essence, the National Park Service succeeded in gaining the cooperation of

297 Superintendent's Annual Reports for 1974 and 1976 (February 10, 1975 and March 21, 1977), CINP Archives, Cat. 13117, Box 1, Folder 7.

Dr. Stanton, even though it did not obtain his property. This success became evident during the legislative hearings for the park bill a few years later, when Dr. Stanton withheld any objection that he might have had to the inclusion of Santa Cruz Island within the proposed park boundaries. Gaining Carey Stanton's approval was a major achievement and a turning point for the Channel Islands. The failure of more than 20 park proposals since 1953 was due in large part to Dr. Stanton's opposition which, in turn, was a reaction to the NPS's dismal record of poor management of the islands.[298]

Superintendent Ehorn also made important progress on San Miguel Island during his first few years. Prior to that time, little had been done to manage that island's valuable and fragile resources despite the 1963 MOA signed with the US Navy that directed the National Park Service to assume management responsibilities. A legal "Catch-22" prevented the National Park Service from actually expending Department of the Interior funds on the navy-owned lands. Within his first year as superintendent, Bill Ehorn arranged to visit Point Bennett on the western tip of San Miguel Island where the National Marine Fisheries Service (NMFS) maintained a research station under the direction of Dr. Robert DeLong.[299]

Bill Ehorn never forgot the impression this trip made on him and fondly describes it many years later. Ehorn remembers walking with Dr. DeLong across the island toward Point Bennett. As the group approached, the presence of the marine mammals became increasingly evident with their loud barking and strong odor. Finally, the entire rookery on Point Bennett came into view and Ehorn was amazed by the vast number of animals gathered on the sandy shores. The scientist explained to him the significance of what he was seeing. This was the only place in the world where six species of pinnipeds (seals and sea lions) would haul-out on an annual basis, with four of the species regularly breeding here. Only recently northern fur seals, which lived as far north as the Bering Sea, had returned. Overhunting had extirpated them by 1858. In 1958, the first fur seals were observed breeding once again in these southern waters after a century of absence. As Ehorn approached the noisy rookery, he realized that he was witnessing a sight that was unequaled anywhere else in the world and was impressed with the beauty and significance of this natural resource. He left vowing to protect it against any threat (see plate 6, chapter three).

298 Carey Stanton was also ideologically opposed to government management according to Marla Daily who was interviewed by Timothy Babalis, August 19, 2009. Transcript in CINP Archives, Cat. 35818.

299 National Marine Fisheries Service is also called NOAA Fisheries.

Figure 3-3. Point Bennett supports thousands of visiting pinnipeds including at least four different species that haul-out and breed there. The broad, sandy area is the park's farthest point from the mainland and is one of the most important protected sites in the Pacific Ocean.

Source: Photographer unknown, November 2003. CINP Digital Image Files.

Superintendent Ehorn's first action toward this end was to address the 1963 MOA with the navy. The original agreement had been reached with the intent of allowing the National Park Service to manage San Miguel Island's resources while the navy maintained nominal authority over the island itself. Shortly after Ehorn arrived at the monument, he discovered that this agreement had never been acted upon—in fact, could not be acted upon—because the navy had insisted that the National Park Service develop a report on the resources of the islands together with recommendations for their continued protection and management.[300] Until this report was completed, the navy insisted on keeping the island closed to public access. The report was never written, so the island remained closed. This conflicted with the NPS mission, as defined in the Organic Act of 1916, to provide enjoyment as well as protection of the resources it managed. When Ehorn consulted on this matter, the Solicitor's Office of the Department of the Interior informed him that the National Park Service could not spend Interior-appropriated funds on lands owned by another agency that were not open to the public for recreational purposes. He finally resolved the problem by instructing his staff to complete the required report and then arranged a compromise with the navy allowing limited

300 The plural is a reference to Prince as well as San Miguel Island. Prince Island is really a large rock or islet just outside Cuyler Harbor. Ian Williams, Mike Hill, Rob Danno, Reed McCluskey, Mike Maki, Bill Ehorn, and Ann Huston, "The Administrative History of San Miguel Island: The National Park Service on San Miguel from 1963 to 2016," *Western North American Naturalist* (2018), VOL. 78 NO. (4), 2018, 1.

public access under the guidance of a park ranger. He modified the agreement to allow him to expend Interior-appropriated funds on San Miguel Island to enforce rules and regulations, and to permit visitation on a restricted basis. This agreement also provided for the transfer of San Miguel Island to the National Park Service if the navy ever determined that the island was surplus to its own needs. The new agreement was approved on October 20, 1976, and shortly afterward park ranger Mike Hill was assigned to work seasonally on the island for the purpose of environmental assessment and inventory work.

Later that year, Superintendent Ehorn also addressed the lack of any formal management policy for San Miguel Island by organizing a Management Advisory Committee, which consisted of Dr. A. Starker Leopold who then sat on the President's Marine Mammal Commission; Drs. DeLong and George (Bud) Antonelis of the National Marine Fisheries Service; Dr. Ralph Philbrick, director of the Santa Barbara Botanical Gardens; Dr. Dennis Power, director of the Santa Barbara Museum of Natural History; Carey Stanton, owner of the majority of Santa Cruz Island; and representatives of the US Navy, the California Department of Fish and Game, the University of California, Santa Barbara, and the National Park Service. These experts were brought together for a two-day meeting and field trip in January of 1977 to determine how visitation would be controlled and resources protected.

Based on this meeting, the Management Advisory Committee issued 14 recommendations including classification of San Miguel and Prince Islands as an Environmental Protection Subzone; placement of a permanent island ranger and a seasonal ranger at a site near Cuyler Harbor; maintenance of the existing "road" and use of a small, quiet motorized bike for the rangers to travel between the lakebed landing strip and Point Bennett; use of a small boat to patrol the harbor area; inauguration of a program to allow small parties of permitted visitors to tour limited sections of the island with a ranger; formation of an advisory committee to screen potential researchers permitted to camp at designated sites; and continuation of flights for NPS personnel, preferably by helicopter, but not for visitors.

After review, Bill Ehorn and Regional Director Howard Chapman signed the resulting Statement for Management in early October 1978 followed by the navy's Point Mugu base commander two months later. It divided the islands into two zones. On San Miguel a Natural Environment Subzone consisted of a one-acre site for the existing Marine Mammal Research Center hut, staffed by National Marine Fisheries Service researchers, a 60-foot wide "trail corridor" converted from the rudimentary road, and a five-acre helicopter pad "where landings can be spread out to reduce impact." All the rest of the two islands and the surrounding state waters were classified as an Environmental Protection Subzone managed to "perpetuate their unique ecological and scientific values." The Statement for Management also forcefully reiterated that the navy had highest priority of use. [301]

301 CINP, "Statement for Management for San Miguel and Prince Islands," December 1, 1978.

FACILITIES DURING THE LATE 1970S

Another major improvement Superintendent Bill Ehorn effected when he came to Channel Islands in 1974 was the status of the monument's physical infrastructure. At the time, it was rudimentary, mostly second-hand, and poorly maintained. The small staff occupied a three-bedroom residence leased by the Ventura Port District. In addition to office space for the staff, Ranger Pete Nigh put together a slide show and some island exhibits in one of the rooms that became the monument's first visitor center. Another room was used as a dive locker, and the bathroom housed the monument's library. By 1980, the monument had 15 permanent positions, including 6 park rangers to staff the headquarters visitor center and the three islands. As the staff grew, trailers were added for additional office space. The monument stored maintenance, boating, and ranger equipment in a warehouse at the US Navy base.[302] The monument's boats were moored at Ventura Harbor.

Figure 3-4. The headquarters and visitor center for Channel Islands National Monument was a small three-bedroom house provided by the Ventura Port Authority.

Source: Photograph by Bill Ehorn, 1978. CINP Digital Image Files.

Passage of Public Law 93-477 gave the National Park Service authority to purchase land at the marina and construct a permanent visitor center and administrative offices. One of Bill Ehorn's first tasks was to negotiate with the Port District over the location and size of the land to be purchased. At this time, the Ventura Marina had scarcely begun to develop. There was no Marina Village, and General Petroleum's tank farm still dominated the landscape. Bringing the National Park Service into the proposed marina was a very desirable proposition for city planners, and most were willing to offer the best possible deal, hoping that the National Park

302 Chris Horton interviewed by Timothy Babalis, August 15, 2009. Transcript on file at CINP Archives; Superintendent's Annual Report for 1980 (March 18, 1981), CINP Archives, Cat. 13117, Box 1, Folder 6.

Service, in turn, would provide an ambitious and publicly-attractive project to anchor the new development.[303] Nobody anticipated the problems that would develop after such an auspicious beginning.

The original legislation authorized the Park Service to accept a donation of 2.5 acres and to expend just under $3,000,000 for development. Over the next few years, the Denver Service Center (DSC) designed a large, elaborate visitor center plan, the proposed land base increased to just under five acres, and the expenditure ceiling rose to $5,500,000. These modifications were perceived as necessary and predictable, and their acceptance reflected the commitment of all parties to achieve the best possible development. However, at the end of 1978, when an expansion bill to accommodate the proposed modifications was anticipated, an unexpected reaction from Washington, DC suddenly soured relations between the National Park Service and the City of Ventura and seriously threatened the entire project. On November 29 of that year, Superintendent Ehorn was called back to Washington to meet with NPS Director William Whalen to discuss the proposed visitor center. Citing the increased costs and ambitious interpretive program, Director Whalen decided not to continue with the current plans. Instead, he recommended that a much smaller building be designed with the interpretive emphasis on orientation rather than trying to recreate an island experience on the mainland.

Because the National Park Service had already made commitments to the City of Ventura, the Ventura Port District, and to Congressman Robert Lagomarsino, Ehorn and Regional Director Howard Chapman were obliged to spend considerable time and effort in smoothing over local public relations and in selling the new design concept. The Port District responded by moving the proposed land donation to a more remote location at the end of the spit in the marina and reducing its size from 4.6 acres to 2.1 acres.[304] While this decision may have represented some pique, it was also understandable in terms of planning. There was, after all, no reason to give the National Park Service prime real estate in the proposed marina if the park was not planning to develop the land to its highest potential. Instead, it made better economic sense to give this land to a private interest who would realize a more intensive development of the property and pay taxes to the city. These setbacks delayed the start of work on the new visitor center for two years until December 1980 after the tiny monument had become a national park.

303 This account based on Ehorn public talk, January 16, 2003. Transcript in CINP Archives, Cat. 35833; P.L. 93-477, "An Act to provide for increases in appropriation ceilings and boundary changes in certain units of the national park system, to authorize appropriations for additional costs of land acquisition for the national park system, and for other purposes," October 26, 1974.

304 Superintendent's Annual Report for 1979 (September 4, 1980), CINP Archives, Cat. 13117, Box 1, Folder 6.

Figure 3-5. A model of the proposed visitor center that was intended to be placed across the harbor from the current headquarters and visitor center.

Source: Photograph by Bill Ehorn, date unknown. CINP Archives, Acc. 343, Cat. 9946.

Figure 3-6. The current visitor center in the Ventura Harbor with the *Ocean Ranger*, marine patrol boats and the *Sea Ranger II*. Growth of the park staff now has employees in two additional buildings where the agency rents space.

Source: Photograph by L. Dilsaver, August 2018.

Island Facilities

Park rangers had occupied East Anacapa Island by the time an agreement was signed with the Coast Guard for use of its surviving buildings, and they used it as a base for marine patrols on the *Arrowhead*. They also had developed a public campground and a self-guided nature trail. By 1975, the monument offered guided nature walks throughout the year.[305] NPS staff began work to repair the remaining light station facilities on East Anacapa Islet and make them serviceable for park operations. One of the first tasks was to repair the boat crane and wharf in Landing Cove, an inlet on the northeastern coast. This was accomplished in 1976 with the assistance of the Naval Construction Battalion at Port Hueneme, with whom Superintendent Ehorn signed an MOU.[306] Ehorn proved adept at maintaining good relations with US Navy officials, who in turn provided valuable assistance to the park, especially with transportation to and from the islands.[307] The following year, park workers repaired the bunkhouse on the end of the generator building and the remaining Coast Guard residence and stationed an island ranger and maintenance worker there. Coast Guard staff continued to use the bunkhouse on an occasional basis when visiting the island for routine service of the light station.

Rehabilitation of existing infrastructure began in 1979 and included upgrading the utilities with replacement of nearly 2,000 feet of galvanized waterlines, installation of a chlorination

305 Superintendent's Annual Report for 1975 (March 11, 1976), CINP Archives, Cat. 13117, Box 1, Folder 7; Roger Rudolph telephone interviewed by Ann Huston, June 19, 2019.

306 Superintendent's Annual Report for 1976 (March 21, 1977), CINP Archives, Cat. 13117, Box 1, Folder 7.

307 Ehorn also obtained a great deal of surplus military property through his relations with the navy, which did much to compensate for the park's limited budget.

system to treat drinking water, and a septic system to manage human waste.[308] At this time, island rangers still occupied a tent that was erected seasonally at Frenchy's Cove on the eastern tip of West Anacapa Islet. The facility received only cosmetic improvements. With the improvement of permanent facilities on East Anacapa Islet, the park abandoned its seasonal arrangement on Frenchy's Cove shortly after ranger Jack Fitzgerald arrived in 1981.[309]

On Santa Barbara Island, the rangers continued to live in a surplus Quonset hut that had been left behind by the military after World War II. The navy had erected two of these simple structures to accommodate a photo tracking unit, which monitored missiles fired from the Naval Ordnance Test Station in China Lake.[310] Only one of the Quonset huts was retained by the National Park Service after the navy turned over its facilities, and this structure had deteriorated substantially by the 1970s. It received much-needed improvements following Superintendent Ehorn's arrival, but conditions remained spartan, while mice continued to infiltrate the building. Jim and Ann Bellamy were hired as the permanent staff on Santa Barbara Island. Nonetheless, the increased attention that Santa Barbara Island received under Ehorn's energetic administration had a marked effect on morale and improved the general perception of the NPS presence here and throughout the monument, even though several years passed before adequate funds were available for any substantial development.

Ehorn's own recollection of these early days captures both the primitive conditions which then prevailed at the monument and his own enthusiasm for improving matters:

> *I then went down to Santa Barbara Island. There hadn't been a Park Service person on that island for months, maybe even a year. There was no landing facility at all. The way you got ashore was you would take a skiff in, you'd scratch your way up the bank. There was an old Navy Quonset hut that had been defecated in and no floor in it, there wasn't anything. And no presence of the Park Service. So, when I started hearing the stories that the Congressman alluded to earlier about the Park Service doing a bad job ... Yeah, they did a terrible job, and I was embarrassed. One of my first goals was—I've got to clean this place up. I have to show the public that the Park Service really does care about managing the resources and taking care of the public. So, I personally went out and took my seven people and we went out in a boat and cleaned up the outhouses and had the Navy come out and put it on the barge in the landing cove at Anacapa and we just began chucking everything off of there.*[311]

It was his attitude and energy, more than the actual accomplishments that the park's limited staff were able to achieve, that convinced skeptical landowners like Carey Stanton and the Vails to modify their opinion of the National Park Service.

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308 Superintendent's Annual Reports for 1979 and 1980 (September 4, 1980 and March 18, 1981). CINP Archives, Cat. 13117, Box 1, Folder 6.

309 Superintendent's Annual Reports for 1980 and 1981 (March 18, 1981 and May 19, 1982), Ibid.

310 Livingston, "Island Legacies," 861.

311 Bill Ehorn taped ranch visit, December 6, 2001. Recording and transcript on file in CINP Archives, Cat. 35833.

Figure 3-7. A view of Santa Barbara Island from the landing cove to the dilapidated Quonset huts that housed early rangers and greeted Bill Ehorn when he arrived in 1974.

Source: Photographer unknown. CINP Archives, Acc. 217, Cat. 3247.

One of the more significant changes that occurred on the islands after Bill Ehorn's arrival resulted from detailing Ranger Mike Hill to San Miguel Island in 1977. At the beginning of the next year, he became the permanent ranger on the island. Hill was equipped with little more than a canvas tent and a solar-powered radio but adjusted heroically to his new assignment, finding the challenges to be as inspiring as they were daunting. By the end of his first year, he submitted an annual report that more strongly resembled poetry than a government document. He wrote it during an enforced period of reflection brought on by one of the winter storms that frequently savaged the island between January and March, limiting or preventing any communication with the surrounding world. Among his more lyric observations, Hill noted the marked increase in visitation since his arrival. The navy's stipulation that visitors always be accompanied by an NPS ranger had proven to be a positive asset to interpretation and the visitor experience rather than the encumbrance that NPS staff had gloomily anticipated. Visitation had as yet not exceeded the capacity of the island ranger and his volunteers to provide this obligatory service, and the attention was welcomed by most visitors as an opportunity to spend three or four hours with a knowledgeable ranger or VIP

(Volunteers-in-Parks program) who could answer, or at least address, every question that came to mind. From the NPS perspective, this extended close contact with the visitor presented an excellent opportunity to share agency philosophy and management values to members of the public in greater depth than was usually possible during a typical visitor interaction. Ranger Hill suggested that this sort of extended (or enforced) visitor contact be encouraged wherever possible in other national park system units.

Hill also reflected on the logistics of his assignment and the physical infrastructure that supported this operation. He deplored the lack of good radio communication with the mainland, and he requested that the National Park Service invest in higher quality equipment to ensure a more reliable service. Not only would this help alleviate the island personnel's inevitable loneliness, it could also prove crucial in an emergency. On a similar note was the need for an adequate boat and associated facilities. Hill was provided with a Zodiac—a small, rigid-hulled, inflatable motorboat—by the end of his first season to patrol the NPS's one-mile sea boundary and provide assistance to distressed mariners. However, this vessel was hardly up to the task and was destroyed within a few months of delivery during one of San Miguel's infamous winter storms. The solution to this problem, according to Hill, was not a larger boat but a more secure facility for harboring it. He recommended constructing the sort of facility that surf-men in the Lifeboat Service (predecessor of the US Coast Guard) had used for generations—an onshore boathouse with a winch to draw the boat out of the surf and into its protected berth. Unfortunately, this simple solution was never implemented, and the San Miguel Island ranger remained helpless as far as maritime assistance and patrol were concerned.

Another issue the island ranger had concerned his accommodations. Mike Hill selected a flat area in Nidever Canyon as the site for a ranger station. He and maintenance worker Wayne Pero developed a helicopter landing site on top of a nearby ridge and built a tent platform on the canyon floor. His canvas tent was soon destroyed by the strong winds and had to be replaced. This was expected to be a temporary arrangement and Hill initially was anxious to have his canvas ranger station replaced with a more durable structure. Over time, however, he came to see the importance of minimizing the development footprint on San Miguel Island, and by the end of his first year had reversed his opinion about the ranger station and now recommended that the National Park Service introduce nothing more substantial or elaborate than the tent he then occupied. He expressed this opinion in his report to Superintendent Ehorn:

> *I'm generally inclined, at this point, to suggest we stay with a tent if (and this is a big if) you and [Regional Director Howard Chapman] feel that the agency has enough discipline <u>not</u> to put some abomination out here later. I'm sorry to say I doubt it. The challenge of learning how to live comfortably in a tent on a place like San Miguel is one that is sorely lacking in today's Park Service. Once you get the system worked out, it is <u>not</u> "roughing it" at all. I know that my time on San Miguel in a tent will be one of the highlights of my career and it might be argued that since there are so few opportunities for this kind of experience for rangers, we ought at least to*

> *maintain this one. Additionally, I would like to suggest that if someone isn't willing to live in a tent on San Miguel, he probably ought not to be there at all![312]*

Hill's impassioned descriptions of life on San Miguel Island made it clear that the island's defining qualities were its solitude and lack of visible human presence. It was a wilderness and Hill did not want to detract from this fundamental experience just to expedite the ranger's duties. He hoped that development would be minimized so that the island might preserve its most essential and valuable characteristics.

Figure 3-8. The ranger tent in Nidever Canyon on San Miguel Island during the late 1970s.

Source: Photographer unknown. CINP Archives, Acc. 276, Cat. 6701.03.

Another important contribution that Hill made to San Miguel Island, and to the park as a whole, was his implementation of a volunteer program with students from the University of California, Santa Barbara. He and Barry Schuyler of the university developed an internship where students in the environmental studies program volunteered on San Miguel. The interns carried out research that became senior theses. Diane Morrison was one of the first interns. Her project involved observations of harbor seals near Hoffman Point.[313] Hill explained:

> *Most important, to my mind, is the development of the V.I.P. Program. We have student interns from UCSB both doing research on the island and being trained to lead Natural History Walks ... So far, the program is going well, but like anything new, will need a bit of T.L.C. to turn it into a truly viable on-going program.*

312 Memorandum, Superintendent, Channel Islands, to Regional Director, Western Region, March 29, 1979, CINP Central Files, 1.A.2, Folder "Special Studies SMI (93-65); Ian Williams et al., "The Administrative History of San Miguel Island," 1-20.

313 Ian Williams et al., "The Administrative History of San Miguel Island," 1-20.

> *When it is fully operational, we should be able to provide visitor services almost all the time.*[314]

In 1979, Hill acquired the sailboat *Poco Loco*, a sloop with a four-cylinder gas engine that became his transportation to the island. From May 1979 to November 1980 he made 15 trips to San Miguel on that boat. Ranger Hill was often teased about his primitive means of getting to work, which sometimes resulted in several days' delay, depending on the winds. But in responding to this criticism, Hill recommended that the National Park Service adopt his model, which he observed would save the park a considerable sum when compared with the cost of fixed-wing or helicopter transit, even with delays. He even suggested that the park abandon its traditional model of a terrestrial visitor center and develop a floating visitor center instead. This, he noted, would be more appropriate to the needs of an island park, where the majority of visitor contacts were made on the water.[315]

Maritime Transportation

At the time Bill Ehorn assumed responsibility for the monument, Channel Islands possessed two deep-water vessels and several smaller craft that were used for patrol. The two bigger boats were the most important logistically because they provided service between the mainland and the islands, carrying both personnel and supplies. He began to tighten the vessel operations, hiring boat operators for the deep-water vessels and requiring the boat captains to be licensed. Ehorn also thought that *Cougar* was a poor name for a marine park unit so he held a contest to rename the boat. *Sea Ranger* was the winning entry. He used the 41-foot Hatteras prolifically to entertain guests when he was trying to raise support for the park bill a few years later.

The *Arrowhead* reached the end of its lifespan and the park sought a boat that could serve the maintenance division carrying cargo back and forth to the islands. To answer this need, the park acquired a surplus 41-foot vessel from the Coast Guard, that it named the *Island Chief*. While not ideal, the *Island Chief* proved indispensable during its years of service. However, in 1977 the vessel sank while it was moored at the dock in Ventura. A seven-inch hole had rusted through its starboard exhaust port, allowing water to flood into the bilge below the waterline. Superintendent Ehorn received a call from the Port District at 4:00 a.m. notifying him that his boat was at the bottom of the harbor and would he like to do anything about it? He and his staff spent the next 24 hours lashing 50-gallon oil drums to the sunken vessel, then pumping them full of compressed air to raise the hulk. They succeeded, but by now there was little desire to keep the stricken craft. It received rudimentary repairs and was sent to the navy base for scrapping. The *Island Chief* reappeared later in Ventura Harbor as a fishing boat, but eventually met its demise when a big swell capsized it.

Knowing that the monument could not survive without a maintenance vessel, Ehorn began looking around for a replacement for the *Island Chief* and eventually decided to commission an entirely new vessel. Unfortunately, the park budget allowed an expenditure of no more than $309,000, which was, at best, half of what would be needed for the vessel that Ehorn envisioned. But luck was on his side. He found a local boat builder named Ed Jenks who had already laid the keel on a 60-foot vessel for a client who then reneged on his contract. Jenks bid

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314 Ibid., 5-6; Memorandum, Superintendent, Channel Islands, to Regional Director, Western Region, March 29, 1979, CINP Central Files 1.A.2, Folder "Special Studies SMI (93-65).

315 Ian Williams et al., "The Administrative History of San Miguel Island," 6.

on and won the government contract for the new boat. Because much of the hardware was already installed and paid for, Jenks was able to finish the boat for Ehorn within the park's budget. Several months later, the park christened the new *Pacific Ranger* and it soon became the park's most industrious, if hardly its most glamorous, workhorse.[316]

LEGISLATIVE HISTORY OF THE PARK ACT (PUBLIC LAW 96-199)

According to one individual who knew Bill Ehorn well, the event that decisively moved him to pursue park status for Channel Islands National Monument was the 1978 Supreme Court decision to grant the State of California authority over the waters within the one-mile boundary of the monument, effectively annulling the monument's seaward expansion of 1949. The ruling originated with regulations that the National Park Service had introduced in 1972 limiting commercial fishing in the monument. Resource staff from the Western Regional Office (WRO) had become concerned over the apparent decline in abalone, spiny lobster, and some fish species around the islands and decided to implement closures to protect the remaining populations. Park rangers began patrolling the waters around the monument islands and issuing citations. All commercial take of abalone and lobster was prohibited from the waters on the north side of Anacapa Island and the east side of Santa Barbara Island. The commercial taking of these species was still allowed elsewhere but only by permit and on a limited basis. The new regulations also prohibited the taking of any invertebrate marine life from the intertidal zone and provided legal protection for submerged cultural resources.[317] These rules angered commercial fishermen who resented being denied access to a resource they had long harvested. Some also questioned the right of the National Park Service to regulate fisheries in these waters because the state had jurisdiction over coastal waters elsewhere. Eventually, a group of fishermen appealed to the State of California to challenge the federal authority. The fishermen knew that the California Department of Fish and Game would be more supportive of their interests than the National Park Service.

Another economic interest with a significant stake in this controversy was the kelp harvesting industry, which depended on the extensive populations of giant bladder kelp (*Macrocystis pyrifera*) that grow in coastal areas throughout the Southern California Bight. Dense forests of bladder kelp occur widely around the Channel Islands, creating habitat for more than 750 species of fish and marine invertebrates, including the spiny lobster. Bladder kelp anchors itself to rocks on the seafloor at depths as great as 100 feet (30.5 meters), sending its long stipes and broad, leaflike blades to the surface where they float in thick mats suspended by the species' bladders. In optimal conditions, like those present around the Northern Channel Islands, kelp can grow more than a foot per day. These underwater forests are largely responsible for the unique abundance and diversity of marine life in the park. But kelp is also a source of a commercially valuable chemical called algin, which is used for a wide variety of applications in the production of both foods and medicines. Since algin is difficult to synthesize, it must be collected from natural sources. It was first harvested off Southern

316 Superintendent's Annual Report for 1977 (March 23, 1978), CINP Archives, Cat. 13117, Box 1, Folder 7; Kent Bullard comments to Ann Huston, July 7, 2019; Bill Ehorn telephone interview by Lary Dilsaver, March 19, 2018.

317 Annual Aquatic Resources Report for 1972, CINP Archives, Cat. 13117, Box 8, Folder 7; 36 CFR 7.84, "Channel Islands National Monument"; and "Special Regulations, Areas of the National Park System; Channel Islands National Monument, California; Submerged Features, Wrecks, and Fishing," *Federal Register* 37.53, March 17, 1972.; Bill Ehorn comments to Laura Kirn and Ann Huston, November 5, 2019.

California between 1916 and 1918 for production of chemicals like acetone and iodine during World War I. Production fell with the conclusion of the war until the 1930s, when new commercial applications were discovered for algin.[318] Thereafter, a number of small companies began harvesting along the Southern California coast on leases from the state. One of these, the Kelco Company, expanded its operations to the Channel Islands in 1950 after kelp populations along the mainland coast had substantially diminished, though the decline cannot be attributed definitively to overharvesting.[319]

By the 1970s, Kelco had become a division of the multinational pharmaceutical firm, Merck & Co., and employed about 500 people in its San Diego processing plant. The company used large, barge-like harvesting boats with cutters mounted on a rack at the forward end. The cutters sheared off the upper four feet of the kelp, where the biomass was thickest, and a conveyor carried the harvested material onboard. These ungainly but effective boats moved through the kelp forests like sea-going lawnmowers. They typically harvested each bed three or four times a year. Kelco derived about 12% of its annual harvest from the Channel Islands, although the National Park Service had been able to exclude this activity from the waters around Anacapa and Santa Barbara Islands after 1949. As commercial fishermen began agitating for greater access to monument waters; Kelco, too, challenged this protection.[320]

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318 J. F. Wohnus, "The Kelp Resources of Southern California," *California Fish and Game* 28.4 (1942) 199-205; See also W. L. Scofield, "History of Kelp Harvesting in California," *California Fish and Game* 45.3 (1959).

319 Over-harvesting of other marine species that naturally co-exist with the kelp probably contributed. While kelp harvesting may have hastened this outcome, by itself it was not sufficient to explain it. The disappearance of kelp forests along the mainland coast was more likely the result of the combined over-harvesting of both lobster and kelp and possibly other contributing factors as well. See Allan A. Schoenherr, C. Robert Feldmeth, and Michael J. Emerson. *Natural History of the Islands of California* (Berkeley, CA: University of California Press, 1999) 104-105.

320 "The Statement of Kelco to the Sub-Committee on Parks, Recreation, & Renewable Resources of the Senate Energy & Natural Resources Committee, Commenting on Legislation to Establish a Channel Islands National Park," submitted August 2, 1979, the "Hearing before the Subcommittee on Parks, Recreation, and Renewable Resource of the Committee on Energy and Natural Resources, US Senate, 96th Congress, 1st Session, on S.1104," July 19, 1979, 109-41.

Figure 3-9. Kelco's El Capitan in 1941. The huge boat operated like a lawnmower, slicing and loading the top layer of the kelp forest.

Source: Photograph reproduced with permission of the San Diego History Center.

The Southern California fishermen eventually convinced the State of California to sue the Department of the Interior, challenging NPS authority to regulate fisheries within monument boundaries. The state claimed that the 1953 Submerged Lands Act had given California exclusive jurisdiction over all waters and submerged lands within three miles of the island shorelines, including those waters within the one-mile boundary of the monument. The suit eventually made its way to the US Supreme Court, which upheld the state's claim on grounds that the National Park Service had not exercised its right to reserve the lands in which it had a prior interest when the Submerged Lands Act was passed in 1953. Had the agency done so, it could have reserved the submerged lands (and overlying waters) within the monument's one-mile seaward boundary. The failure by the Park Service to take such action was interpreted by the court as indicating the abandonment of its interests in the waters around Channel Islands National Monument and an abdication of its right to regulate the marine resources associated with them. Although it mattered little to the court, the reason the Park Service had failed to exercise these rights back in 1954 was due to the neglect of the monument itself, which at that time was only nominally managed by Sequoia-Kings Canyon National Park and had no staff of its own.

When the Supreme Court announced its decision on May 15, 1978, Bill Ehorn was on Santa Barbara Island. Chief Scientist Gary Davis later recalled when a Kelco boat approached the island:

> *. . .the kelp cutter came in and cut through the forest, part of what [Ehorn] protected, was actually cutting the forest down. The kelp cutter came in within hours of the decision being handed down in Washington and cut through, and he cried. He had tried to protect it, he'd done the best he could, and he'd lost.*

According to his friends, it was this event that truly galvanized Ehorn's resolve to expand the monument and gain park status. By doing so, he hoped to prevent further damage to the Channel Islands and perhaps regain some of what had been lost.[321]

The moment could not have been more opportune to pursue a park bill. Even as the Supreme Court was debating the monument's jurisdiction, Carey Stanton was engrossed in negotiations with The Nature Conservancy over the sale of his land on Santa Cruz Island. In September of 1978, scarcely four months after the humiliation of the Supreme Court decision, Bill Ehorn was at the airport on a business trip when he received a call from his secretary telling him to get in touch with Dr. Stanton as soon as possible because Stanton wanted to talk to him about something important. Ehorn called, and Stanton told him that he had just sold his property to the Conservancy. He wanted Ehorn to be the first one to know. Although Ehorn was disappointed that Stanton had not sold to the National Park Service, he told Stanton that he was pleased to know that most of Santa Cruz Island would now be protected through the stewardship of an organization "that has policies that are closely aligned with those of the National Park Service." Ehorn also told him that he hoped the Park Service would still be able to have a role in the management of the island in the future. Stanton assured him that this would be possible.[322]

Carey Stanton's decision represented a very positive precedent. Ninety percent of Santa Cruz Island had been sold for only $2,524,000 to be managed as a nature reserve rather than developed for profit.[323] This could only help support the park effort by setting a positive example. There were other practical implications as well. With one of three private landholdings now safely protected, Ehorn could turn his attention to the eastern end of Santa Cruz and to Santa Rosa Island. This significantly reduced the burden of land acquisition. Moreover, TNC had a long history of close collaboration with the Park Service and shared many common values, so Ehorn could reasonably expect that the Stanton Ranch would be managed according to principles that were close to those of his own agency. He might even expect the land to be transferred to the Park Service at some time in the future, since TNC often acted as intermediary between private landowners and public agencies like the National Park Service. For various reasons, the Conservancy has resisted transferring the entire Stanton Ranch to the National Park Service. The Nature Conservancy did transfer a portion of the Stanton Ranch on the isthmus to the National Park Service in 2000, but it was for practical reasons beneficial to both organizations.[324]

Another strong inducement to pursue the Channel Islands park bill at this time was the interest that had been aroused in nearby Los Angeles County by Congressman Anthony Beilenson to provide similar protection for the Santa Monica Mountains. Beilenson had a confirmed history as a strong advocate of natural resources protection. During his 10 years in the state legislature he had authored the California endangered species act, which became law in 1970, making California only the second state to enact such legislation. Beilenson was elected to the House

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321 Gary Davis interviewed by David Louter, June 11, 2007, p. 25. Transcript on file in CINP Archives, Cat. 30177; This interpretation is derived from actual accounts of Bill Ehorn's behavior at that time, described by close associates like Gary Davis, and from descriptions of his character by others who knew him.

322 Ehorn, "The Establishment of Channel Islands National Park," undated typescript, 6. CINP Archives Acc. 298, Cat. 6835, Folder 39.

323 See chapter five.

324 See chapter eight.

as representative of California's 23rd Congressional District in January 1977. At that time, the 23rd District, which comprised all of Los Angeles County, included the Santa Monica Mountains. One of the first things Beilenson did after arriving in Washington was to submit a bill to include the mountains in the national park system.

His actions were not unprecedented. Representative Robert Lagomarsino, whose 13th Congressional District lay just north of Beilenson's, had submitted a Santa Monica Mountains park bill a few months earlier.[325] But Lagomarsino had been reluctant to support a similar bill for the Northern Channel Islands, even though they lay within his district. He believed that the islands were already adequately protected by the existing private landowners and he was concerned about the increased attention and visitation that he thought park status would bring. Lagomarsino's feelings changed, however, when Beilenson's bill appeared that spring because Beilenson proposed a combined Santa Monica Mountains and Channel Islands National Park.[326] Moreover, even though Beilenson was a junior member of the House of Representatives, his proposal had a good chance of succeeding because it was supported by Representative Philip Burton, a much more powerful and experienced member of Congress. If the Channel Islands were to be designated a national park, Lagomarsino did not want the credit going to a representative from another district. His concern led Beilenson to drop the Channel Islands from his proposal, possibly at Philip Burton's urging, and a subsequent version of the bill that included only the Santa Monica Mountains was enacted the following year.[327]

Although Representative Lagomarsino still had reservations about the idea of a Channel Islands National Park, this incident may have convinced him of the likelihood that some action would eventually be taken and that it was better for him to get behind it rather than stand aside. In this calculation, Lagomarsino was not simply motivated by the attention a park bill would bring to his own political reputation. He was also aware that the best way to steer any proposed bill in the direction he wanted was to author the bill himself. He had several reasons to be concerned. For example, Beilenson's earlier proposal would have given ownership of the waters around the islands to the National Park Service, but Lagomarsino believed these should remain under state jurisdiction and continue to be managed cooperatively. He also wanted to protect the various military and Coast Guard interests on the islands, and he believed Beilenson's bill had not adequately done so. But above all, Lagomarsino wanted to protect the interests of the private landowners, many of whom were personal friends. Indeed, his own brother worked as a hunting guide on Santa Cruz Island, and his family had close ties with many of the island ranchers as a result.

325 H.R. 380, 1976, for Santa Monica Mountains Urban Park, which would have been a state/federal partnership.

326 H.R. 7264, 1977; Bill Ehorn memorandum, CINP Archives, Acc. 298, Cat. 6835, Folder 62.

327 Public Law 95-625, November 10, 1978.

Figure 3-10. Congressman Robert Lagomarsino delivering a speech at the Channel Islands National Park Visitor Center.

Source: Photographer and date unknown. CINP Archives, Acc. 305, Cat. 6844/006.

At first, Lagomarsino was willing to support only an expansion of the monument boundaries to encompass additional islands but not a new designation of the monument itself. He believed this would ensure that the islands remained undeveloped. But about this time, Francis Gherini, whose family owned the eastern portion of Santa Cruz Island, approached the congressman and told him that he would not support the expansion of the monument without its designation as a national park. Gherini may have hoped to increase the value of his family's property by increasing its development potential, but his endorsement of the national park idea helped bring Lagomarsino around. The final inducement came from Bill Ehorn, whose enthusiasm for a national park bill had reached a high pitch by now. Ehorn assured the wavering congressman that the National Park Service made little distinction between monuments and parks—this was not entirely true—and that any desired limitations or restrictions could be written directly into the authorizing legislation and become part of the resulting park's mission statement. This was true, because a specific act of Congress supersedes NPS policy. With these assurances, Lagomarsino finally put his support behind the proposed Channel Islands National Park and agreed to sponsor a bill to bring it about.[328]

Representative Lagomarsino introduced the earliest version of his Channel Islands bill, H.R. 2975, to the House on March 26, 1979. Bill Ehorn had gone to Washington DC, to help

328 Bill Ehorn, "The Establishment of Channel Islands National Park."

Lagomarsino and his aides draft the bill. The legislation would eliminate the existing monument, establish a national park in its place, and authorize the National Park Service to acquire all properties within the designated boundaries, but with strong emphasis placed on the willing cooperation of existing landowners, both private and federal. Significantly, this earliest version of the Channel Islands National Park bill contained the stipulation that the National Park Service develop a "natural resources study report" that included: "(1) an inventory of all terrestrial and marine species, indicating their population dynamics, and probable trends as to future numbers and welfare; and (2) recommendations as to what actions should be considered for adoption to better protect the natural resources of the park." Park scientists' interpretation of that section of the law became the foundation for the NPS vital signs inventory and monitoring program.[329]

Of more immediate consequence to most interested parties were the bill's stipulations concerning the Park Service relationship with private landowners. In his original draft, Representative Lagomarsino specified that the lands belonging to the Vail & Vickers Company on Santa Rosa Island and to The Nature Conservancy on Santa Cruz Island could not be acquired without the consent of the private owners. In other words, these lands could not be acquired through condemnation. The bill also specified that private owners who agreed to sell their lands could retain a 25-year Reservation of Use and Occupancy (RUO) that could be terminated only if the former owners exercised an incompatible use. Lagomarsino included in his bill the following clause to limit NPS authority to determine what constituted incompatibility:

> *Existing uses of any property acquired under this Act (including, but not limited to, grazing activities and operations and the control and management of feral and non-native animals by selective control techniques used before the date of enactment of this Act) shall not be treated as incompatible uses. . .*[330]

If they chose not to obtain a Reservation of Use and Occupancy, they would still be able to request a "leaseback." The latter was an agreement that would allow the former owners to continue an existing use of the lands, though now for a fee paid to the National Park Service and subject to the bureau's conditions. These conditions were addressed primarily to Vail & Vickers and were intended to assure them that they would be able to continue ranching as they always had, even if Santa Rosa Island were included in the proposed national park.

Testimony for the bill was heard in the House National Parks Subcommittee on April 30, where the bill was marked up. On May 4, 1979, the amended version of H.R. 2975 was reported to the general floor of the House of Representatives. That same day, H.R. 3757, a procedural bill that had been introduced by Representative Philip Burton, was reported from the Committee on Interior and Insular Affairs, and the text of H.R. 2975 was added to it.[331] Lagomarsino's Channel Islands bill now became Title II of H.R. 3757. The original procedural

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329 H.R. 2975, "To establish Channel Islands National Park," March 26, 1979. For text of original bill see CINP, Central Files, Santa Rosa Island (hereafter SRI) Binder 1, Section B.1.b.

330 Ibid.

331 H.R. 3757, "Amending the National Parks and Recreation Act of 1978". Though the bill was primarily intended to correct textual errors in the 1978 legislation, it also added some new lands, for example, at Point Reyes National Seashore. House Report 96-119, reported May 4, 1979, CINP, Central Files, SRI Binder 1, B.2.a.

matter introduced by Representative Burton was retained as Title I. H.R. 2975 was then abandoned and all further testimony and voting referenced H.R. 3757.

During this markup period, the representatives made a number of changes to Lagomarsino's original bill. Much of the detailed language protecting the existing privileges of other federal agencies—the military and the Coast Guard—was condensed and simplified, with little or no change in meaning. Far more significant were changes in the language concerning the rights of private landowners. The clause in the original bill describing RUOs was considerably modified and now included the right to remove nonnative animals from the island and the retention of existing uses "including, but not limited to, grazing activities and operations, and for those lands identified in section 2(b)(1) [that is, Santa Rosa Island], not to exceed a fifteen-year period for the control and management of feral and nonnative animals by selective control techniques used before the date of enactment of this title." This clarified Vail & Vickers' right to continue their economically important commercial hunting operation, which was cryptically described as selective control of feral and nonnative animals. These rights would be subject to termination if the Secretary of the Interior determined that the uses were incompatible with the administration of the park, but in the event that an RUO was abrogated for these reasons, the amended bill now required that monetary compensation be awarded. Leases were also subject to termination, especially if the lessee introduced incompatible uses. Of much greater significance, Lagomarsino's clause specifying that existing practices would not be construed as incompatible was removed. Instead, the secretary would now have full latitude in determining whether a use was compatible or not. Condemnation of TNC lands on Santa Cruz Island and Vail & Vickers' property on Santa Rosa Island remained precluded as in the earlier bill.

Most of these changes were directed at Vail & Vickers and were not as solicitous as Lagomarsino had been with his original proposal. Nevertheless, the amended bill still offered the ranchers considerable assurances—they would not be forced to sell their lands, and if they did choose to sell, they would be able to retain a 25-year RUO that would allow them to continue ranching. They would also be able to continue their hunting operation, but only for 15 years. Counterbalancing these assurances, however, the Vail & Vickers Company operations would be subject to scrutiny by the National Park Service. But the House bill was sufficiently clear in its definition of allowable activities that it would be difficult for any right of use to be terminated during a 25-year RUO so long as it did not deviate substantially from existing practice. Moreover, the assurance of monetary compensation in the event of termination reduced the possibility that the National Park Service would act capriciously.

On May 7, 1979, the US House of Representatives considered and passed H.R. 3757, as amended. Shortly thereafter, the bill was introduced to the Senate as S. 1104 by Senator Alan Cranston of California, co-sponsored by Senator S. I. Hayakawa, also of California, and Senator Dale Bumpers of Arkansas. The bill was then referred to the Senate Subcommittee on Parks, Recreation and Renewable Resources, chaired by Senator Bumpers; and hearings were held on July 19, 1979. A letter from Representative Lagomarsino introduced the amended House bill to the Senate. As the letter indicates, the legislator remained very solicitous of the Vail & Vickers interests:

> *Although the legislation necessarily allows condemnation should the property be jeopardized by a threatening change in use, or if the land is offered for sale, the exemption from traditional condemnation authority was devised at the specific request of these private owners. I wish to point out that the ranching operations on*

> *this land are considered a compatible use in this legislation and I have been advised by the Park Service that there is no problem in permitting these activities to continue within reasonable bounds. To the present day, the owners have proved sensitive and able stewards of the land and I expect they will continue to conduct their ranching operations without endangering resources on Santa Rosa Island. For the past year, I and my staff have worked closely with these landowners, often on a daily basis, to see that their concerns were addressed.*[332]

Lagomarsino reiterated these sentiments in his opening statement to the Senate subcommittee on the morning of July 19, but added a further comment regarding the Vail & Vickers Company's expected future activities on Santa Rosa Island:

> *They do not wish to expand their cattle ranch significantly beyond its present capacity which, they have advised me, is already sufficiently expanded for their purposes. However, I understand that there may be a desire for further clarification in the language of the bill to assure that these landowners are permitted to continue their ranching activities in a productive manner ...* [333]

This further clarification was a reference to Vail & Vickers' concern that they might be frozen in time and prevented from making any necessary upgrades or improvements in their operation in order to remain economically competitive. Senator Hayakawa later returned to this point, adding that it was a concern not only under the terms of a potential lease but also under an inholding arrangement with Vail & Vickers as remaining private landowners within the legislative boundaries of the proposed park. At this point during the hearings, Vail & Vickers were still opposed to selling their land and would support the bill only if it did not require them to do so. As inholders, Vail & Vickers feared that any modification in ranching practice might trigger a hostile condemnation and force them to sell the island against their will. Senator Alan Cranston sought to address these concerns by encouraging the committee to "clarify the language in the bill to provide condemnation only when the Secretary of the Interior determines a property is undergoing or about to undergo a significant change in use which, on the basis of documentation, is clearly inconsistent with the purposes of the park." Although several other senators were similarly concerned about protecting Vail & Vickers' private property rights, the committee as a whole chose to avoid inserting such detailed language in the bill. The broader, more generalized terms of the existing draft were thought to be sufficient because the majority of committee members believed that the committee's intent to allow continuation of current ranching practices on private land was clear.

The National Park Service had defined its own understanding of a "change in use" on private land in the park that might constitute grounds for condemnation in a written response to the subcommittee's inquiries prior to the hearings. The agency described such change as:

> *... any activity not historically related to ranch operations currently existing on this Island. Some of these activities are, but not limited to, development of residential or*

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332 CINP, Central Files, SRI Binder 1, B.4.a.

333 Lagomarsino to Senate, July 12, 1979, CINP Central Files, SRI Binder 1, B.1.c.

> *commercial facilities, or drilling for oil or any use that would have an impact on natural or cultural resources.*[334]

Despite the ambiguity of the final clause, this statement illustrates NPS willingness to allow continued ranching on Santa Rosa Island at that time as a private inholding, at least in principle, but also its demand for control of how the ranching operation would be conducted. This was confirmed by NPS Director William Whalen during his testimony before the subcommittee. In describing what he considered to be an unacceptable change in use on land owned by the park, Whalen suggested sale for subdivision, mineral extraction, and possibly overgrazing. Respecting the last, he explained that present grazing levels were acceptable but that the park would want to work with the landowner to determine appropriate animal units per acre in the future.

The Vail & Vickers testimony before the subcommittee largely repeated the statements made by the senators who preceded it. The company's chief concern remained the threat of condemnation, but Vail family members made some additional suggestions regarding how this problem might be addressed. Al Vail, who spoke first, proposed that any use judged incompatible should trigger a temporary restraining order rather than outright condemnation. He also proposed that any such determination be reviewed by a federal district court. This would give the family an opportunity to respond before a neutral arbiter and prevent the Park Service and the Secretary of the Interior from using their authority inappropriately. These suggestions illustrated how deeply the Vails' mistrust of the National Park Service already ran, despite the best efforts of Superintendent Ehorn. Russ Vail, Al's twin brother, noted that his family would suffer an economic loss if Vail & Vickers was forced to sell its property after the park was established. This, he explained, was because the ranching operation would lose most of its retail value once it became an inholding in a national park and lost the independence and flexibility needed to remain profitable. It suggests that the Vails were already considering the possibility that the company might have to sell the ranch and were looking for the best way to maximize its return. This is supported by the fact that Vail & Vickers had recently commissioned an appraisal of its land to determine its highest value as a residential subdivision. Vail & Vickers ultimately chose not to demand an immediate sale on these conditions. Vail family members later explained that Al and Russ Vail were personally committed to keeping the ranch going even at the expense of more profitable alternatives, but supporters of the park bill must have been aware of the implicit threat that this possibility posed.

Although the property interests of private landowners like Vail & Vickers were the principal focus of the subcommittee's attention, other concerns were also expressed. Many senators worried about the effect that the proposed park might have on the state's authority over the waters surrounding the islands. Representative Lagomarsino had raised this issue when he introduced the House bill to the Senate, noting that his version of the bill contained explicit assurances that the state would retain its authority over the waters and submerged lands within three miles of each island's shoreline.[335] Like the solicitude shown toward the landowners, this

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334 "Hearings before the Subcommittee on Parks, Recreation, and Renewable Resources, of the Committee on Energy and Natural Resources," United States Senate, 96th Congress, 1st. Session, July 19, 1979, 90.

335 H.R. 3757, Sec. 203(b). "No provision of this title [concerning the right of the Secretary of the Interior to enter into cooperative agreements with the State of California] shall be deemed to affect the rights and jurisdiction of the State of California within the park, including, but not limited to, authority over submerged lands and waters within the park boundaries, and the marine resources therein."

concern was also related to private economic interests, primarily the commercial fishermen who had challenged the federal government's authority over these waters several years earlier. Kelco also submitted a written statement protesting the park bill as currently written on the assumption that, if passed, it would return authority over the near-shore waters to the National Park Service.[336]

In response, Director Whalen commented that if Kelco's operations were as benign to natural resource values as it believed, then the company should have no trouble obtaining special permits from the National Park Service to continue harvesting. But Kelco observed that the National Park Service rarely allows commercial extractive activities in national parks and so had no compelling reason to make an exception in this case. The company recommended that the bill be amended to assure continuation of lawful commercial activities if authority over the marine component of the proposed park were transferred from the state to the federal government. Such an amendment proved unnecessary, however, because most of the senators agreed with Representative Lagomarsino and preferred to retain the state's authority over these waters. As Lagomarsino later explained, the state was seen as a better manager of the near-shore resources. What he meant, in fact, is that the state would be more sympathetic to economic interests like commercial fishing and kelp harvesting than the National Park Service.[337]

Although the polarization of these various private interests gave the impression that the National Park Service and the California Department of Fish and Game, the state agency responsible for managing near-shore waters, were at odds with one another, in reality the two agencies had been cooperating closely within the Santa Barbara Channel for many years. This was a result of fiscal and practical necessity and had become more important than ever during the previous few years. The National Park Service had lost its authority with the Supreme Court's decision of 1978 and depended on the state to manage marine resources within the monument's boundaries. At the same time, the state was anticipating a substantially reduced budget following the passage of Proposition 13, also in 1978, which limited the state government's ability to raise taxes. Although the worst effects of Proposition 13 would not be felt for some years because of a budget surplus that the Edmund Brown administration had accumulated, state agencies such as the CDFG were already expecting their resources to be cut back and were looking for help from other sources. This prospect was mentioned by several congressmen from California over the course of the hearings, both in the House and the Senate, and they emphasized the need for cooperation between the federal and state governments. In this climate of budgetary anxiety, the CDFG was more than willing to accept assistance from the federal government to fulfill its management obligations.

In the Northern Channel Islands, a model for such cooperation was already in place with deputizing NPS law enforcement rangers as state game wardens to assist in patrolling the waters within the one-mile seaward boundary of the monument. In effect, the National Park Service had continued managing the coastal waters around the Channel Islands as it always had despite the 1978 Supreme Court decision, though now NPS rangers carried out their duties under the authority of a cooperative agreement with the State of California. The advantages of this arrangement were understood by the members of the Senate subcommittee, who expressed their approval for language that Congressman Lagomarsino had inserted into

336 CINP Central Files, SRI Binder 1, B.4.c.

337 Ibid.

the original version of the bill encouraging the relationship to continue. Under the terms of this agreement, the state retained the dominant authority over the monument waters, pleasing local economic interests who preferred the state's management priorities over those of the National Park Service. The latter, however, would provide much of the human resources needed to carry out the state's obligations. The Park Service was motivated to preserve this relationship, despite its potential conflict with the NPS mission, because it provided the only opportunity for the agency to retain any control over the marine resources of the monument. This is why Director Whalen, in his testimony before the Senate subcommittee, lauded the precedent and asked the senators to ensure its continuation. Whalen also testified that his desire for the bill was to acknowledge the anticipated establishment of a national marine sanctuary in the Santa Barbara Channel. Knowing that this would be managed by the National Oceanic and Atmospheric Administration, a branch of the Department of Commerce, Whalen proposed that the bill be amended to encourage cooperative agreements among the National Park Service and its sister federal agency as well as with the State of California for the management of marine resources within the legislative boundaries of the proposed park. The senators duly incorporated this language into the final bill.

The Senate subcommittee also considered the objections of the oil industries, which were represented by the Western Oil and Gas Association in written testimony. The oil industries initially opposed the park bill because they feared that the establishment of a national park in the Santa Barbara Channel would restrict the potential development of petrochemical resources there. At the time, offshore drilling platforms on federal outer continental shelf (OCS) leases produced more than 200,000 barrels every day. Recent legislation had established a 15-mile setback for oil development from the seaward boundaries of Point Reyes National Seashore, and the Association was concerned that the same might be done here.[338] The State's jurisdiction already included a three-mile setback. The industry representatives noted that recent OCS leases had already been made within 15 miles of the Northern Channel Islands. Their second concern was that the proposed park might be categorized as a class I air quality zone under the Clean Air Act. This could affect oil production activities on the adjacent mainland. Finally, they feared losing the potential use of the islands themselves for oil pipeline compressors or onshore processing facilities that might be needed if the remote Santa Rosa-Cortes Ridge was ever developed. That marine fault block lies 60 miles west of Los Angeles with its northern terminus near Santa Rosa Island.

The National Park Service later responded in its own written statement to these concerns and those of the kelp harvesting industry. To the Western Oil and Gas Association, the Park Service explained that neither a 15-mile setback nor class I air quality designation was part of the proposed bill, and both would require legislative action if they were ever to be considered in the future. With respect to kelp harvesting, the Park Service observed that jurisdiction over this activity remained with the state, but if it were to pass to the federal government, a permit could be issued to allow harvesting to continue. However, the Park Service insisted that the industry

338 "Statement of Western Oil and Gas Association" in the Appendix to "Hearings before the Subcommittee on Parks, Recreation, and Renewable Resources, of the Committee on Energy and Natural Resources," United States Senate, 96th Congress, 1st. Session, July 19, 1979, 169-170.

would carry the burden of responsibility for demonstrating that its activities were consistent with the resource protection values of the park, or at least not detrimental to them.[339]

The majority of the NPS statement, however, addressed concerns about Santa Rosa Island and whether it should be included in the proposed park or not. Acting Director Daniel Tobin wrote a lengthy account of the unique resource values possessed by the island. Most of these were natural, such as the Torrey Pine forest, the Channel Islands fox, and various marine resources. But interestingly, he also described the Vail & Vickers ranch as an important cultural resource, writing that "Santa Rosa represents one of the best opportunities to preserve and interpret historical ranching operations." Bur Low, in the NPS director's office, addressed some of the concerns that Vail & Vickers had when he emphasized that the proposed bill would allow condemnation of their property only in response to incompatible use, that it specifically cited grazing operations as a compatible use, and that provisions were made for allowing Vail & Vickers to retain a reservation of use and occupancy if they did choose to sell or if they were condemned. However, none of these assurances specifically addressed Vail & Vickers' concern over the potential devaluation of their property once it became an inholding and whether they would be compensated for this economic loss.[340]

On November 7, 1979, some four months after the Senate subcommittee hearings took place, Vail & Vickers submitted a letter to Congress expressing their dissatisfaction with the results of the discussion.[341] As already noted, their principal concern was to protect their private property rights, as well as the economic value of their ranch in the event that Santa Rosa Island was included in the boundaries of the proposed national park. Neither the discussion during the hearings nor the NPS's later response had reassured them that this would be the case. In response, Vail & Vickers proposed one of two alternatives—either Santa Rosa Island be excluded from the proposed park boundaries or the Vail & Vickers' property be condemned at the earliest possible time and the company be compensated at the existing market value. In this event, Vail & Vickers' recent appraisal of the subdivision value of their ranch would represent an important negotiating position.

The ranchers attached a résumé explaining the reasoning behind these decisions. They began by insisting that the company had provided "impeccable stewardship" of the land and would continue to do so in the future. In their opinion, the resources were already protected and so there was no need to include Santa Rosa Island in a national park, at least not on this basis. Vail & Vickers also suggested that the National Park Service did not need this acreage and only intended to "bank" the island for future, not present, contingencies. The letter concluded with some broad generalizations reflecting the political philosophy of the families:

> *[The park bill] is a prime example of the omni-present problems of government over-regulation of small business. Operating a cattle ranch of this size under National Park Service regulations, which are onerous, arbitrary, and capricious, is impossible. With agricultural land going out of production at an alarming rate, it is economically unsound to over-regulate that which is left and thus decrease its production. With a 'sage-brush rebellion' simmering, it is inappropriate for the*

339 Daniel Tobin Jr. to Dale Bumpers, February 15, 1980 and Bur Low to Dale Bumpers, November 13, 1979, both reproduced in Congressional Record, Senate, February 18, 1980, 1420-21.

340 Ibid.

341 Al Vail to Senator Wallop, November 7, 1979, in Congressional Record, Senate, February 18, 1980, 2887.

> *federal government to indulge in empire building in the form of a further land grab. The federal government already owns nearly half the land in California; why does it need more?*[342]

The statement reveals the level of mistrust that Vail & Vickers already felt toward the federal government, feelings that long predated the events of the mid-1990s that family members later cited as the source of their antipathy toward the National Park Service.[343]

This statement was a turning point, both for Vail & Vickers and for the park legislation. The company was no longer willing to work with proponents of the park and instead proposed an ultimatum that, one way or the other, would exclude it from any long-term relationship with the National Park Service. Vail & Vickers had never been interested in seeing Santa Rosa Island become part of a national park, but they were willing to consider the park proposal so long as they believed it would not interfere with their right to continue ranching or compromise the economic value of their ranch. The assurances that they had received from Representative Lagomarsino and Superintendent Ehorn—both individuals whom Vail & Vickers trusted—had at first convinced them that their business might be able to coexist with the proposed park as a private inholding within its boundaries. But the Senate hearings, which proved to be far more critical and probably more realistic, than those in the House raised doubts about the reliability of such assurances. These doubts were only amplified by Vail & Vickers' existing mistrust of the government and ultimately convinced them of the futility of any practical compromise between their objectives as private ranchers and the public mission of the National Park Service. They preferred to leave Santa Rosa Island out of the proposed park, but if this proved impossible, they would leave after the National Park Service purchased it for an acceptable price.

The first alternative was not really a viable option. Any park bill that did not include Santa Rosa Island or Santa Cruz Island would be unlikely to pass Congress. Vail & Vickers were aware of how much momentum had already built behind the park bill by this time and realized that it was unlikely to be abandoned, so in fact, only their second alternative was intended as a serious proposition. This would allow them to preserve the economic value of their property, even if it meant losing the property itself.

Selling the ranch was not a desirable option until passage of the proposed bill began to appear inevitable. Bill Ehorn met with Al and Russ Vail in Washington, DC, the night before the subcommittee hearings and convinced them that the family stood to gain more by supporting the park bill than by opposing it. He stressed his and Lagomarsino's belief that the expressions of support from Congress would ensure they could continue ranching after selling through the RUO or leaseback options. However, Ehorn recalls advising them to express their concerns as clearly as possible so that these would be reflected in the final legislation, which they did in their letter.[344] The Vails had considered the possibility of a sale and made efforts to ensure the best possible terms. At their request, Senator Alan Cranston had proposed an amendment

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342 Ibid.

343 Nita Vail interviewed by Timothy Babalis, September 25, 2009. She claimed that the National Park Service betrayed the family and this betrayal is the source of their hostility.

344 "Presentation by Bill Ehorn and Robert Lagomarsino at California State University, Channel Islands Library Archives Dedication," January 2003. Transcript on file in CINP Archives, Cat. 35833; Bill Ehorn telephone interview with Lary Dilsaver, May 30, 2019.

earlier "...to insure prompt consideration by the Federal Government of any offer made by an inholder to sell if continued private ownership would result in hardship."[345] This would have preserved the value of the Vail & Vickers ranch by making the federal government a designated buyer, legislatively required to purchase the property if the private landowners could no longer operate their business on a profitable basis and no one from the private sector was willing to buy it [the hardship]. The proposed amendment would have served as a companion to the no-condemnation clause that was already in the bill. But once Vail & Vickers abandoned the idea of retaining private ownership of Santa Rosa Island, they no longer needed the economic safety-valve that Senator Cranston offered them. Instead, they needed an assurance that the federal government would buy their property *as soon as possible*.

Urgency was important for two reasons. In order to obtain the full market price for their property, Vail & Vickers believed that the sale would have to be completed before Santa Rosa Island became an inholding in the proposed park. At the very least, the value on which the sale of their property would be based needed to be established prior to this event. That was the reason Vail & Vickers had secured an appraisal made in anticipation of the park debate. As the Vails noted during their testimony before the Senate subcommittee, they believed the restrictions that the Park Service would inevitably place on an inholding would compromise its viability and reduce its worth. This referred to the practical limitations that they expected the National Park Service to apply to their ranching operation, including the grazing standards that Director Whalen had mentioned in his testimony or the level of modernization that several of the senators anticipated. The highest value for which the property was currently appraisable assumed that the island could be developed for high-end residential subdivision, but the existing park bill would allow the Park Service to initiate condemnation procedures if this sort of development was ever seriously considered. In other words, the land could not be used for its highest economic value once it became part of the proposed park, and therefore its value would be diminished unless a sale was legislatively required on the basis of market value prior to the passage of the bill. This is what Vail & Vickers hoped for when they insisted that private lands within the proposed park boundaries be acquired expeditiously at current market values. Acknowledging that they could not avoid becoming part of the proposed park, they wanted to ensure that they would be bought out before the anticipated devaluation of their property.[346]

Urgency was also needed in selling Santa Rosa Island because both Vail & Vickers' families were concerned about the inheritance tax, which would require them to pay a substantial percentage of their land's value as members of the present generation died. The inheritance tax alone probably exceeded either family's economic capacity and could not be paid without liquidating capital assets—that is, the land and ranch facilities. This prospect further encouraged the sale of the island property at the highest rate possible. Preserving the cattle ranch itself was not really an option since the ranching economy was already turning against the interests of Vail & Vickers. Al and Russ Vail hoped instead to turn their landed assets into a transferable legacy which they could successfully pass on to their heirs.[347]

Among the possibilities they considered, in addition to outright sale, was commercial hunting. Unlike ranching, this business was still profitable. Vail & Vickers had introduced elk to Santa

345 Senator Alan Cranston during "Hearings before the Subcommittee," July 19, 1979, 45-49.

346 "House Report 96-119," May 4, 1979.

347 The Vails were well aware of the impact inheritance taxes had on Carey Stanton's decision to sell most of Santa Cruz Island.

Rosa Island in 1912 and deer in 1929 to provide an opportunity for large game hunting.[348] In addition to the wild pigs, which were already abundant, the deer and elk had successfully naturalized in their new environment and were proliferating so rapidly by the late 1970s that periodic culling was needed to maintain a manageable population and prevent overgrazing. Al and Russ Vail's sister Margaret Woolley recognized the potential for commercial hunting as a revenue source for the island and ultimately formed an agreement with Wayne Long of Multiple Use Management to run the hunting operation.[349] This soon became an important source of revenue, with commercial hunting promising to eclipse the value of traditional cattle ranching. The Gherinis soon made the same discovery on East Santa Cruz Island, while Carey Stanton was already running a successful hunting operation on his side of that island. During the subcommittee hearings, Margaret Woolley had testified on the need to continue hunting in order to control exotic animal populations. She made no mention of the fact that commercial hunting had also become a significant source of income for the family.

The Senate Committee on Energy and Natural Resources adopted the subcommittee mark-ups on November 29, 1979, but introduced several changes of its own. The most significant of these was made in response to the letter submitted by the Vails expressing their dissatisfaction with the prospect of becoming an inholder in the proposed park. In deference to Vail & Vickers' concerns, the Senate committee replaced the noncondemnation provision of the original bill with a new clause requiring the expeditious acquisition of Santa Rosa Island:

> *With respect to the privately owned lands on Santa Rosa Island, the Secretary [of the Interior] shall acquire such lands as expeditiously as possible after the date of enactment of this title. The acquisition of these lands shall take priority over the acquisition of other privately owned lands within the park.*[350]

The Senate committee also deleted the provision allowing hunting within the RUO after Director Whalen opposed it on land owned by the National Park Service. Other changes were less significant. These included an assurance to the State of California that its rights and jurisdiction over the sea would not be challenged. And finally, a statement of appreciation for Carey Stanton was added to the Senate report accompanying the bill (but not to the bill itself): "Both Committees note with great appreciation and respect, the splendid stewardship of the land practiced through the years by Dr. Carey Stanton, the major owner of Santa Cruz Island, and applaud the great philanthropic gesture and contribution to conservation he has made in recently transferring so much of his holdings to the Nature Conservancy." The bill reported out of committee on December 13, 1979, after receiving a unanimous vote the day before.[351]

On February 18, 1980, the Senate considered H.R. 3757 before the full chamber. During these final hearings, Senator Hayakawa of California introduced an amendment to exclude Santa Rosa Island from the park bill altogether. This 11th hour attempt was made at the request of Vail & Vickers, and the reasons given by Senator Hayakawa were largely the same as those listed in the company's November 7 letter. The senator, however, went even further than Vail & Vickers with his observation that the cattle ranch not only provided "impeccable stewardship"

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348 Dewey Livingston, "Island Legacies: A History of the Islands Within Channel Islands National Park," NPS Historic Resource Study, 2016, 297-298.

349 Bill Ehorn, comments to Laura Kirn and Ann Huston, November 5, 2019.

350 Sec. 202(c) of the enacted law (Public Law 96-199).

351 Senate Report 96-484, reported December 13, 1979.

of the island's natural resources, but provided better access for the public than the National Park Service promised to do with its proposed limited-use principle. He also claimed that scientific researchers currently enjoyed unlimited access to the island, and implied that government ownership would not represent any improvement in this respect. Senator Hayakawa's comments undoubtedly reflected the family's own ideas, which he had learned from recent conversations with them. He mentioned that his office had also been contacted by the National Cattlemen's Association and the California Cattlemen's Association, both of which advocated protecting the Vail & Vickers ranch and keeping it out of the proposed park.

Senator Hayakawa was supported through a written statement by his senior colleague, Senator Malcolm Wallop of Wyoming. Like Hayakawa, Senator Wallop gave most of the same reasons already listed in the Vail & Vickers' November 7 letter, a copy of which was submitted for the record following his remarks. But Wallop amplified considerably on the financial implications that the proposed park would have on the company's cattle operation. The restrictions resulting from it becoming an inholding would, he explained, prohibit "most of the kinds of normal, day to day activities which go into running a cattle ranch," rendering the operation economically unprofitable and forcing the families to sell. Senator Wallop also believed that Vail & Vickers could expect to receive considerably more than the Park Service's recent appraisal of the island, which estimated the value at $19,000,000. If the bill passed with Santa Rosa Island included in the new park's boundaries, Wallop suggested that the federal government would be committing itself to no less than $50,000,000 for the immediate acquisition of the island. The senator then pointed out that this burden on the federal budget might grow even greater, since Vail & Vickers had recently applied to the county board of supervisors to have the island rezoned for residential subdivision "in order to fix the value of their property at its highest and best use allowed under law."[352] The government was obligated, he explained, to award compensation according to the value thus established under the requirements of the Uniform Relocation Assistance and Real Property Acquisition Law.[353] Failure to do so would almost certainly result in litigation, since Vail & Vickers had written, at the conclusion of their letter to the Senate, that they would file a lawsuit for damages if they were not adequately compensated for their full financial loss in the event that Santa Rosa Island was included in the park. They also promised to litigate "other serious constitutional questions which the bill presents." By this, presumably they were referring to the principle of a government taking without fair and adequate compensation, as provided in the Fifth Amendment of the Bill of Rights.

The amendment proposed by Senators Hayakawa and Wallop failed to attract the necessary support, and the bill moved to a vote and was quickly approved by the full Senate without that addition. The park bill had now assumed its final form. Two days later, on February 20, it was sent back to the House for review and concurrence. During this brief hearing, the bill's original authors commented on the Senate modifications. Representative Robert Lagomarsino, as the principal sponsor, gave the longest statement, much of which was simply *de rigueur* and briefly

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352 Sen. Wallop's statement during the "Hearings before the Subcommittee," July 19, 1979; see also, Statement of Sen. Cranston, Senate Hearings, February 18, 1980 in the *Congressional Record*, Senate, 2889. The Vails were denied their request. Senator Hayakawa was informed by the Vails that their intent in making this request was not to implement a subdivision but to increase the appraised value of the land. Since this would also increase their taxes, this suggests that the Vails had already determined to sell their ranch on the assumption that the park bill would pass with Santa Rosa Island included, and they wanted to obtain the highest value possible.

353 Public Law 91-646, "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970."

summarized the long process through which the bill had passed. But he lingered on a few of the more important, and contentious issues that had been addressed and debated over the course of the past year. He pointed out that the bill now called for acquisition of the private Vail & Vickers holdings on Santa Rosa Island as quickly and expeditiously as possible. This represented a profound change from his original draft in H.R. 2975, in which he had taken great pains to prevent the loss of Vail & Vickers landed property. But Lagomarsino now pledged himself to seeing that this sale be consummated as soon as possible. The congressman also made a lengthy statement, for the record, explaining how the bill in no way challenged the state's jurisdiction over the submerged lands and their associated marine resources lying three miles seaward of the islands' shorelines, even though the park boundaries extended one mile seaward. This assurance was a nod to the commercial fishermen, kelp harvesters, and the oil and gas industry.[354]

Representative Keith Sebelius expressed strong regret that the Senate had bowed to pressure from the state and inserted this language. He believed that the proposed park was substantially diminished by the abdication of the Park Service's authority over its marine resources. To compensate for the loss of protection, Sebelius encouraged the Park Service to place greater emphasis on the bill's mandate to inventory the terrestrial and marine species that had survived from Lagomarsino's first bill. He stated:

> *This should at least serve as an early warning system for any jeopardy that may come to these species resulting from any adverse impact brought upon them due to commercial fishing, kelp harvest, oil drilling, space technologies activities and the like.*[355]

The latter referred to space shuttle overflights that were being considered by National Aeronautics and Space Administration (NASA) at that time. This resulted in section 203a of the final act that expanded the stipulation in Lagomarsino's first park bill to study and monitor marine resources and set further precedent for an inventory and monitoring program throughout the national park system.

During the Senate hearings, Bill Ehorn had addressed the assembled lawmakers and other speakers about the characteristics of each of the five islands.[356] Director Whalen and Congressman Lagomarsino complimented him on the effect of his narration on the listening lawmakers. His description bolstered the justification not only for the proposed park, but also for tight controls on visitation and careful protection of its resources. Furthermore, the prospect of swarms of destructive visitors had been one of Carey Stanton's objections to park status, and one of several reasons why he sold his property to The Nature Conservancy in 1978. Representative Lagomarsino claimed this was his principal objection when the park proposal was first discussed between himself and Superintendent Ehorn. He agreed to sponsor

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354 The State was typically generous about allowing permits for fishing and kelp harvesting. However, it did not allow oil and gas development within its three-mile territory. The oil and gas industries were concerned that, if the federal government were to exert its authority into the State's marine territory, requiring protection under national park standards, it might go further and demand the same protection out to fifteen miles, as it had done at Point Reyes. This would begin to intrude upon profitable offshore oil reserves. From the oil and gas industry's point-of-view, protecting the State's authority was simply avoiding a precedent for further expansion of the national park.

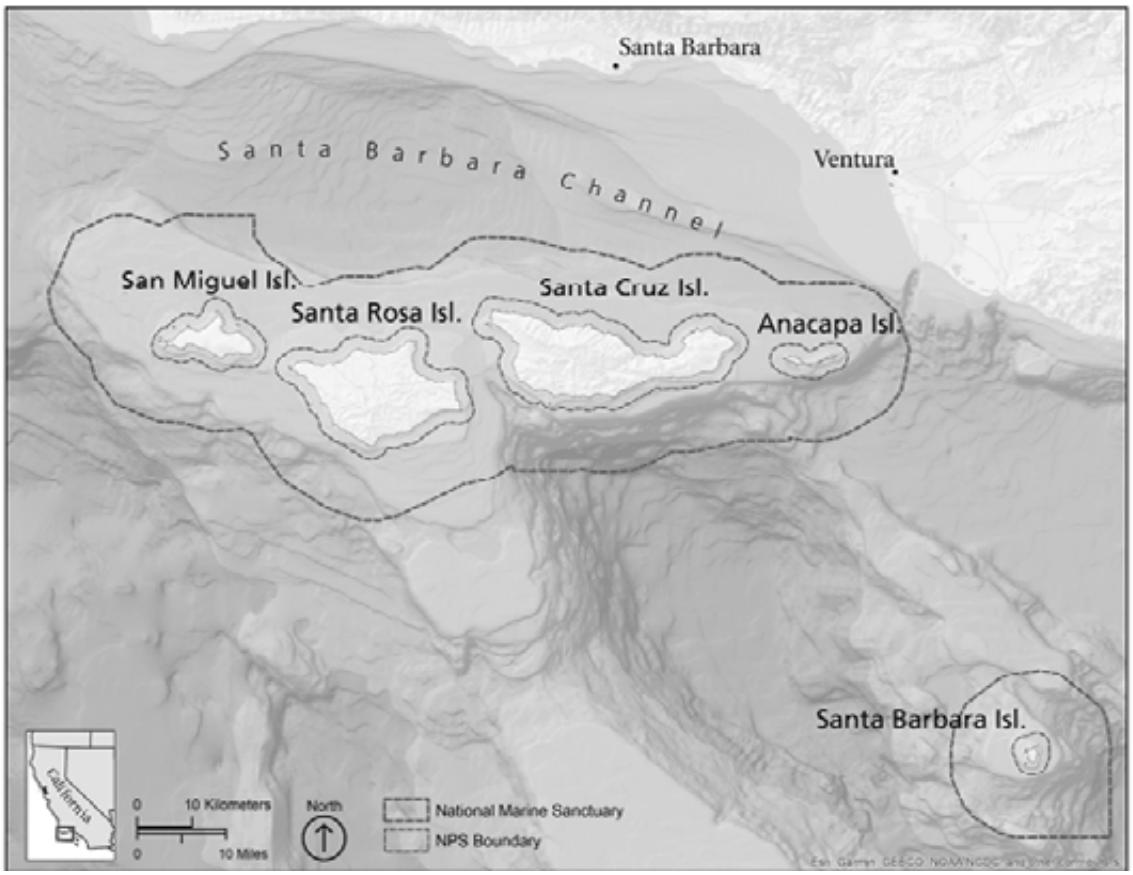
355 Rep. Keith Sebelius, *Congressional Record*, House, 3344, CINP Central Files, SRI Binder No. 1, B.3.c.

356 Director Whalen was supposed to address the Senate committee but told Ehorn to do it to the latter's consternation.

a bill only with the stipulation that any future park be managed on a low-intensity basis.[357] Hence, the final bill included the following important stipulation:

> *The park shall be administered on a low-intensity, limited-entry basis. . .In recognition of the special fragility and sensitivity of the park's resources, it is the intent of Congress that the visitor use within the park be limited to assure negligible adverse impact on park resources. The Secretary shall establish appropriate carrying capacities for the park.*[358]

After these comments were recorded, the House voted its concurrence with the Senate amendments, and H.R. 3757 was enrolled. On March 5, 1980, President Jimmy Carter signed the bill, which was recorded in the *Federal Register* as Public Law 96-199 (94 Stat. 74), and the nation's 40th national park was established. The act called for the first inventory of terrestrial and marine species in two fiscal years, a general management plan coordinated with the State of California and TNC within three fiscal years, and a report to the president on wilderness suitability, also within three fiscal years. The National Park Service had much work to do.



Map 3-3. The boundaries of Channel Islands National Park and Channel Islands National Marine Sanctuary as established in 1980.

Source: Cartography by Rockne Rudolph, Channel Islands National Park.

357 Both of these stipulations appear in Lagomarsino's original version of the bill, H.R. 2975.

358 Public Law 96-199. See appendix C.

PROTECTION OF MARINE RESOURCES

After the catastrophic oil spill in 1969, both the federal and California governments acted to improve protection of marine resources through a series of laws, commissions, and new political entities. The revolution in marine management, begun in part because of the spill, finally reached what would become the frequently ignored half of the young national park.

The Marine Mammal Protection Act (1972) and The Endangered Species Act (1973)

Two important laws enacted not long after the oil spill have had a significant effect on the management of marine resources in the Santa Barbara Channel. They are the Marine Mammal Protection Act of 1972 and the 1973 Endangered Species Act. The Marine Mammal Protection Act established a moratorium on the taking of all marine mammals in US waters and by US citizens on the high seas. It is administered primarily by the National Marine Fisheries Service, the division of NOAA that a few years later administered fishery management plans under the Magnuson-Stevens Act. However, some species identified by the Marine Mammal Protection Act, such as walruses, polar bears, and sea otters, were administered by the US Fish and Wildlife Service. The Endangered Species Act established a legal mechanism for identifying threatened or endangered species and providing for their protection to maintain the species' biological viability. This includes protection of critical habitat necessary to sustain the listed species. Administration of the Endangered Species Act was divided between the National Marine Fisheries Service, which is responsible for marine and anadromous species, and the US Fish and Wildlife Service, which is responsible for terrestrial and freshwater species.

On May 26, 1981, the Park Service signed a Memorandum of Understanding (MOU) with the National Marine Fisheries Service to acknowledge mutual responsibility for the management and protection of marine mammals within the sanctuary boundaries in accordance with the Marine Mammal Protection Act. The Northern Channel Islands, and in particular, San Miguel Island contained some of the most productive and ecologically important marine mammal rookeries in the state, making cooperation between the National Park Service, which held primary jurisdiction over the lands on which these rookeries were located, and the NMFS imperative. Not only did this interagency agreement facilitate management of the protected species, it also reinforced the relationship between Channel Islands National Park and Channel Islands National Marine Sanctuary after they were established. The Memorandum of Understanding specified the respective and mutual cooperative ventures that both agencies were to undertake in the management of protected marine mammals on park islands. It provided guidance for the review of each agency's plans in relation to its counterpart's areas of responsibility including the use of the research station at Point Bennett on the western tip of San Miguel Island, the development of the "marine mammal" section of the park's general management plan, cooperation in enforcement of laws, and the question of commercial pinniped capture in the park as a whole.

National Marine Sanctuaries Act (1972)

Directly applicable to the Northern Channel Islands was the National Marine Sanctuaries Act.[359] It allowed the Secretary of Commerce to designate marine areas that "possess conservation, recreational, ecological, historical, scientific, educational, cultural, archaeological, or esthetic qualities which give them special national, and in some instances, international, significance." The initial regulations for Channel Islands National Marine Sanctuary prohibited seabed disturbance; low aircraft flights; discharges into the waters; and exploring for, developing, or producing hydrocarbons. Living marine resources were not protected from fishing. As the enabling language suggests, protected resources included items of cultural as well as natural value. In fact, the first marine sanctuary to be approved—Monitor National Marine Sanctuary in 1975—protects the wreck site of the Civil War ironclad USS *Monitor*, which sank off Cape Hatteras, North Carolina in 1862.

Magnuson-Stevens Act (1976)

California's state ecological reserves were a local expression of much broader national and international movements toward greater protection of marine resources that had been gathering momentum over the course of that decade. The Stratton Commission's 1969 report was one of the first significant landmarks in this process and helped guide and focus much of the legislative response that followed. The Coastal Zone Management Act of 1972, passed the same year as the National Marine Sanctuaries Act, protected littoral resources, but other legislation was needed to protect marine resources as suggested by the Stratton Commission's recommendations.[360] In 1976, Congress passed the Fishery Conservation and Management Act, more commonly known as the Magnuson-Stevens Act.[361] Although this was a response to unresolved international negotiations during the Third United Nations Conference on the Law of the Sea from a few years earlier, it also addressed many of the key issues identified in the Stratton Commission's report.

The Magnuson-Stevens Act introduced management of commercial fisheries in the Exclusive Economic Zone (EEZ) of the United States that extends 200 miles offshore. Its several purposes included increasing the competitive advantage of US commercial fishermen in this zone, increasing their economic efficiency and conserving potentially over-utilized fish stocks. The first objective was addressed by limiting or excluding foreign competition in the EEZ and the latter two by establishing a consistent regulatory structure under the direction of a single federal authority, the National Marine Fisheries Service. It also introduced a comprehensive planning process implemented through eight regional fishery management councils. Each council was required to prepare a fishery management plan establishing standards and protocols for commercial harvest. Once approved, these standards would be enforced by the NMFS.[362] Although the Magnuson-Stevens Act did not apply to state waters within the three-

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359 The act appears as Title III of the Marine Protection, Research and Sanctuaries Act of 1972, Public Law 92-532; 16 USC §§ 1431-1445b. (Titles I and II address the issue of ocean dumping.)

360 Public Law 92–583, "Coastal Zone Management Act," October 27, 1972; Stratton, Julius A., et al. Our Nation and the Sea, 86-97.

361 Public Law 94-265, "Fishery Conservation and Management Act of 1976," April 13, 1976.

362 NMFS is a successor to the Bureau of Commercial Fisheries. Its new identity dates from 1970 when it was absorbed by the newly established National Oceanic and Atmospheric Administration, which itself was one of the most important results of the Stratton Commission's recommendations. In addition to fisheries management, NOAA consolidated a number of other federal activities relating to oceanic and atmospheric resources.

mile boundaries of the territorial sea and therefore did not apply directly to the waters surrounding the Channel Islands, it did affect management of marine resources in the Santa Barbara Channel and further offshore, having a significant effect on the activities and livelihood of Southern California commercial fishermen.

UNESCO Man and the Biosphere Program (1976)

In 1976, the United Nations Educational, Scientific and Cultural Organization (UNESCO) designated the Channel Islands as a biosphere reserve under the organization's "Man and the Biosphere" program. The designation included Channel Islands National Park and also includes the Channel Islands National Marine Sanctuary as one of the last examples of natural Mediterranean ecosystems in North America and some of the few remaining natural Southern California coastal ecosystems.[363] UNESCO defines biosphere reserves as:

> *areas comprising terrestrial, marine and coastal ecosystems. These sites are exemplary of the planet's biodiversity and how man can inhabit the planet sustainably.* [364]

Biosphere reserves have three aims: conservation of ecosystems and genetic variation; promotion of sustainable economic and human development; and as examples of education and training on local, regional, national and international issues of sustainable development.

The United States has implemented the biosphere reserve program unevenly in US sites and the program has waxed and waned since its inception. Currently, 28 national park system units are part of biosphere reserves. The Channel Islands biosphere reserve program is largely inactive, although the park and sanctuary and their partners are carrying out many of the program goals through their agency missions.

California State Ecological Protection of Park Waters (1978)

When Channel Islands National Park was formally established, its monument boundaries were substantially increased. Nearly 117,000 terrestrial acres were added to the new park, with Santa Cruz and Santa Rosa Islands included legislatively if not in fact. The greatest increase, however, was not terrestrial but marine. The new park boundary extended one nautical mile from the shore of each island, as the monument officially did between 1949 and 1978. What this actually meant, however, remained ambiguous because the park act also reaffirmed the Supreme Court's decision of 1978 granting jurisdiction over the near-shore waters around the Channel Islands to the state. This principle extended to the waters around the newly added islands as well.

Immediately after the 1978 court decision, public protest, primarily from scientists familiar with the Channel Islands and its natural resources, had prompted the California Department of Fish and Game to implement greater protection for the monument waters now under its jurisdiction. The California Department of Fish and Gameheld numerous public hearings and eventually the waters within one nautical mile of Anacapa, Santa Barbara, and San Miguel Islands were designated state ecological reserves. These were defined as areas of special

363 http://www.unesco.org/new/en/santiago/natural-sciences/man-and-the-biosphere-mab-programme-biosphere-reserves/ accessed Nov. 13, 2019.

364 Ibid.

biological significance because they harbored "biological communities of such extraordinary even though unquantifiable value that no acceptable risk of change in their environment as a result of man's activities can be entertained." The state legislature had already designated the state-owned waters surrounding the islands, which extend three miles from the island shorelines, as an oil and gas sanctuary administered by the California State Lands Commission. All mineral development within these critical offshore areas was prohibited.[365]

The new ecological reserves essentially corresponded to the marine areas previously administered by the National Park Service. But because the monument boundary was never actually abolished, even when jurisdiction over the offshore area was lost, it remained legally possible for NPS law enforcement rangers to coordinate with state game wardens through a mutual aid agreement to enforce the ecological reserve regulations. This arrangement had already become effective through a cooperative agreement between the National Park Service and the State of California in 1979. Even with the active participation of NPS rangers, however, many park staff and scientists familiar with the park's resources believed that the ecological reserves were inadequate because state regulations were lenient and provided little meaningful protection.[366]

Channel Islands National Marine Sanctuary (1980)

In 1977, the State of California tentatively nominated a large marine area in the Santa Barbara Channel for designation under the Marine Sanctuaries Act. The proposed sanctuary, as originally defined, would have extended 12 nautical miles from the shorelines of the three islands under NPS management, Anacapa, Santa Barbara, and San Miguel. The nomination was considered during a long public scoping process that also considered potential marine sanctuaries in other parts of the state. Eventually, four areas in the state's coastal waters were chosen, with Channel Islands National Marine Sanctuary (CINMS) the first to be established in September 1980, only seven months after passage of the Channel Islands park bill. The other three national marine sanctuaries designated in California were Gulf of the Farallones, established in 1981; Cordell Bank, established in 1989; and Monterey Bay, established in 1992. The original state proposal was later modified to include only 6 nautical miles, rather than 12, but was also extended to encompass the waters around Santa Cruz and Santa Rosa Islands in response to the anticipated national park expansion. The resulting sanctuary comprises 1,470 square miles (1,110 square nautical miles). Within this area, the sanctuary provided limited protection for all marine life as well as artifacts of cultural value. Its jurisdiction overlapped the legislative boundaries of the national park, the state ecological reserves, and the state-owned waters within the three-mile territorial limit as well as extending an additional three nautical miles into federally owned outer-continental shelf waters. By and large, the regulations first established for the Channel Island National Marine Sanctuary did not specifically provide protection of the biological resources in this large area, on the assumption that existing federal and state laws would do so. Early regulations were concerned instead with potential development or intrusions near the Channel Islands, and included restrictions on seabed

365 NPS, "General Management Plan," 1984, 9; NPS, CINP, Resource Protection Case Study, June 1982. The prohibition on oil and gas development was enacted in 1955 with the Cunningham-Shell Act. It was later extended to include nearly all of California's coastal waters with the Coastal Sanctuary Act of 1994.

366 NPS, Resource Protection Case Study.

construction, aircraft overflights, vessel traffic, waste dumping, and the development of new oil and gas leases.[367]

Administration of the Channel Islands National Marine Sanctuary was shared by NOAA, the National Park Service, and the California Department of Fish and Game. This cooperation was necessitated not only by the overlapping jurisdictions within the sanctuary boundaries, but also because of the limited staffing available to NOAA and the other cooperating agencies. In addition to these principal cooperators, the administration of the sanctuary also included formal involvement of three other federal agencies with vested responsibilities within the sanctuary boundaries—the US Coast Guard, which maintained aids to navigation on Anacapa and Santa Barbara Islands; the US Navy, which still owned San Miguel Island and maintained missile tracking facilities on Santa Cruz Island; and the Minerals Management Service, an agency in the Department of the Interior, which oversaw leases on the outer-continental shelf to the oil and gas producing industries.[368]

A few months later, on July 17, 1981, the National Park Service signed an interagency agreement with NOAA and the CDFG that formally identified the responsibilities each agency would assume in the administration and management of the new marine sanctuary.[369] The California Department of Fish and Game agreed to provide the law enforcement and a boat to carry it out. The National Park Service agreed to design and implement research for sanctuary management, provide office space in the park headquarters for a sanctuary manager, and interpretive displays relevant to the sanctuary. In exchange for these services, NOAA provided funding for a contract to design a seabird monitoring protocol carried out by Dr. George Hunt at the University of California, Irvine, and Dr. Dan Anderson at the University of California, Davis. NOAA also funded two of five years of the kelp forest monitoring protocol design that Gary Davis conducted. The Park Service completely funded 10 multi-year design studies and then implemented the protocols with personnel and support. The marine sanctuary manager was a NOAA employee who received primary direction from the Director of the Marine Sanctuaries Office in Washington, DC, but received direct supervision from the park's superintendent. Some NOAA funds were used to hire a small staff to assist the sanctuary manager. Like the manager, these seasonal employees worked at NPS headquarters.

The first sanctuary manager Superintendent Ehorn hired under the new agreement was Carol Pillsbury, who at that time was NOAA's Marine Reserve Coordinator for California and had previously worked as a California Coastal Commission staff member. In addition to Pillsbury, Ehorn also hired a permanent ranger, a seasonal ranger, and administrative assistants using NOAA funds. The California Department of Fish and Game purchased the research vessel, *Xantu*, for patrols by their staff and NPS rangers. The *Xantu* also was used to host

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367 Testimony of Jack Gehringer, Deputy Assistant Administrator, National Marine Fisheries Service, NOAA, US Department of Commerce, before the House Merchant Marine and Fisheries Committee, Subcommittee on Fisheries and Wildlife Conservation and the Environment, June 5, 1979, CINP Central Files, SRI Binder No. 1, B.4.d.

368 The six-mile extension of the sanctuary included OCS lands within the Santa Barbara Channel. Essentially, all submerged lands beyond the three-mile state territorial limit from any shoreline (including the shores of coastal islands) were OCS and within the jurisdiction of the Minerals Management Service. Secretary of the Interior Ken Salazar issued a secretarial order on May 19, 2010, splitting MMS into three new federal agencies: the Bureau of Ocean Energy Management, the Bureau of Safety and Environmental Enforcement, and the Office of Natural Resources Revenue.

369 The agreement also addressed the mutual responsibilities of Point Reyes National Seashore and the Gulf of the Farallones National Marine Sanctuary, which had been established earlier that year; NOAA, "National Marine Sanctuary Timeline," http://sanctuaries.noaa.gov/about/history/welcome.html Accessed April 28, 2009.

informational excursions. These frequently included oil company executives and had the positive result of encouraging them to sell or donate privately leased OCS parcels to the sanctuary. The cooperation and support of these oil companies was essential to the Channel Islands National Marine Sanctuary's success, because these companies leased much of the federal submerged lands around the Channel Islands, having acquired them prior to the establishment of the sanctuary.[370]

The agreement between the Marine Sanctuary and Channel Islands National Park also produced some important results for public interpretation. Sanctuary funds paid for the tidepool exhibit in the mainland visitor center. The park and sanctuary also collaborated on a photographic exhibit in the tower stairwell of the visitor center with the Brooks Institute of Photography, a local arts college. The exhibit was groundbreaking for its day, using backlit photographic transparencies that depicted underwater scenes arranged by depth from the seafloor to the sea surface as one ascended the stairwell. At that time, it was the largest publicly funded photographic exhibit of its kind in the country. The small sanctuary staff also designed and printed several attractive brochures that were widely distributed.[371]

Despite these positive achievements, relations between the National Park Service and NOAA staff became strained. Senior NOAA managers in Washington, DC, resented what they considered the undue influence that the park had over sanctuary staff. The physical proximity and close working relationship that existed between park and sanctuary staff inevitably resulted in confused roles and overlapping responsibilities. In some cases, the situation manifested itself in petty disputes over details such as appropriate uniform apparel. At first, sanctuary staff wore NPS uniforms but later adopted outfits with NOAA-themed insignia. In 1987, NOAA decided to take over management of the sanctuary and brought in a new manager, Francesca Cava. She moved the office and the boat to Santa Barbara Harbor. Bill Ehorn recalled:

> *Carol Pillsbury was terminated through a reduction in force personnel action for lack of funding (and not in a very nice way). I understood that NOAA was responsible for the program and that they wanted to take over the management, but I was concerned because I felt the NPS was doing a great job managing the sanctuary and the park together as a coordinated unit. I don't recall having a falling out with the new sanctuary manager, but I did confront her when she took credit for providing all the funding for the marine research that was being done by CHIS [the park] (The Kelp Forest Monitoring Program) and I can't recall that they provided funding for any of it.*[372]

Jack Fitzgerald had left his ranger position on Anacapa Island in 1984 and taken on coordination of the marine patrol program on the *Xantu* with the sanctuary paying his salary. With the changes in sanctuary management, the park suddenly had to pick up Fitzgerald's salary. Ehorn placed him in the chief ranger position that had recently been vacated when Ehorn moved Chief Ranger Tim Setnicka into an operations chief position that supervised the

370 Carol Pillsbury interviewed by Timothy Babalis, Santa Barbara, August 19, 2009.

371 CINP, Superintendent's Annual Report for 1983 (February 29, 1984), CINP Archives, Cat. 13117, Box 1, Folder 5; Bruce Craig interviewed by Ann Huston, January 9, 2019.

372 Carol Pillsbury interview, 2009; Bill Ehorn e-mail to Lary Dilsaver, August 22, 2018.

maintenance and protection divisions and the boating staff.[373] Despite the shift in priorities, leadership, and location, the park and sanctuary continued to cooperate successfully in resource protection and education. The sanctuary continued to fund marine patrols on the *Xantu*, using park law enforcement rangers through 1995.

Figure 3-11. The staff at Channel Islands National Monument in late 1979 or early 1980. Top row from left to right, William Ehorn, Kermit Besett Jr., Michael Hill, Christina Horton, Craig Johnson, George Leone, Gary Robertson, David Stoltz, and Wayne Pero. Bottom row from left to right, Dana Seagars, Roger LaMere, Anne Bellamy, Diane Morrison, Heather Leone, Norma Dalla Betta, Nicholas Whelan, Karen Jettmar, and James Bellamy.

Source: Photographer unknown. CINP Archives, Acc. 305, Cat. 6844/013.

373 Jack Fitzgerald, interviewed by Ann Huston, June 26, 2019.

PLATES SECTION

(Plate 1) An oblique aerial photo of Santa Cruz Island looking west.

Photographer unknown, August 1990. CINP Digital Image Files.

(Plate 2) An oblique aerial view looking west over Anacapa Island. In the distance is the eastern part of Santa Cruz Island. Courtesy of Dan Harding, photographer.

(Plate 3) Sunshine through the kelp forest (*Macrocystis pyrifera*) by Santa Cruz Island.

Photograph by Gary Davis, August 2004. CINP Digital Image Files.

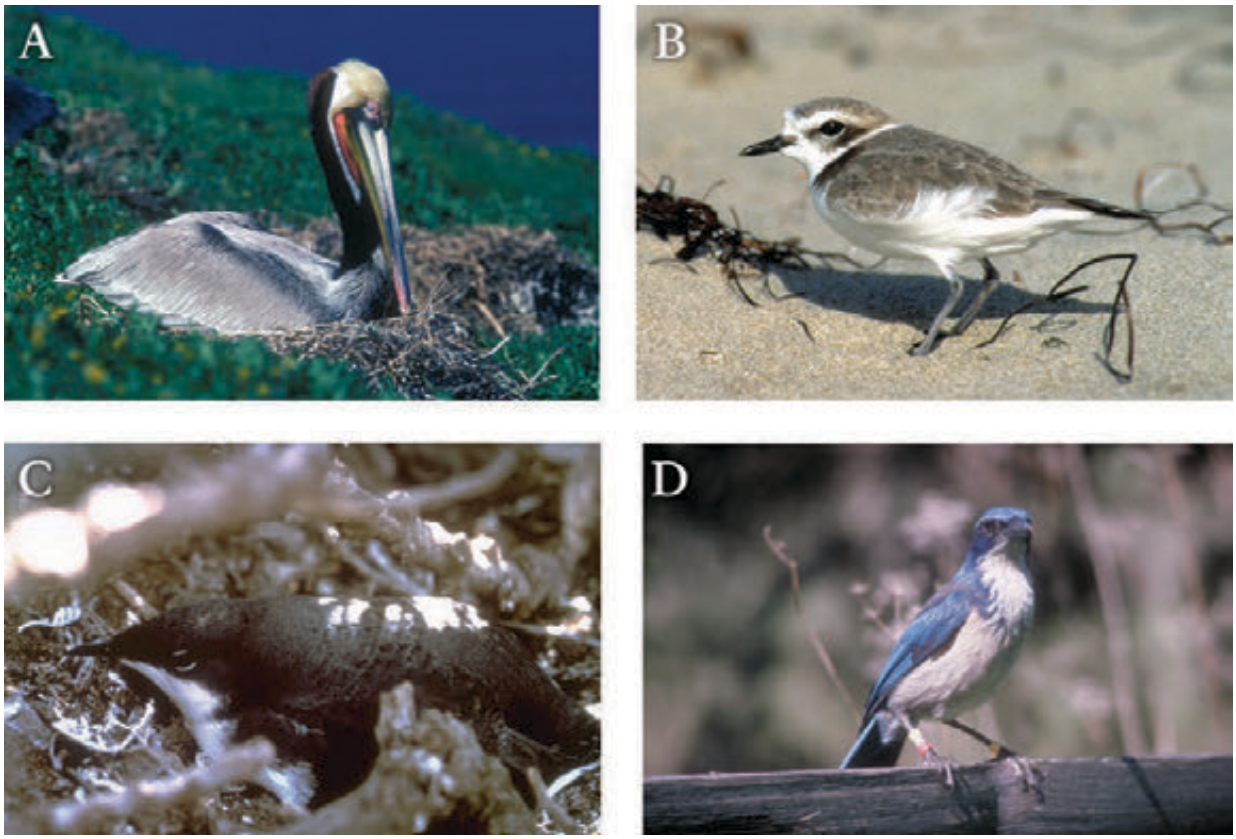
(Plates 4 a, b, and c) Three plants:

A – Soft-leaved paintbrush (*Castilleja mollis*);

B – Santa Rosa Island manzanita (*Arctostaphylos convertible*);

C – Fennel *(Foeniculum vulgare)*.

Castilleja photo from NPgallery.nps.gov; *Arctostaphylos* photo from CINP Digital Image Files; *Foeniculum* photograph by L. Dilsaver, August 2018.



(Pates 5 a, b, c, and d) Four birds are among the rare nesting avifauna on the Channel Islands:

A – California brown pelican (*Pelecanus occidentalis*);

B – Scripps's murrelet chick (*Synthliboramphus scrippsi*);

C –Western snowy plover (*Charadrius alexandrinus nivosus*);

D – Santa Cruz Island scrub jay (*Aphelocoma coerulescens insularis*).

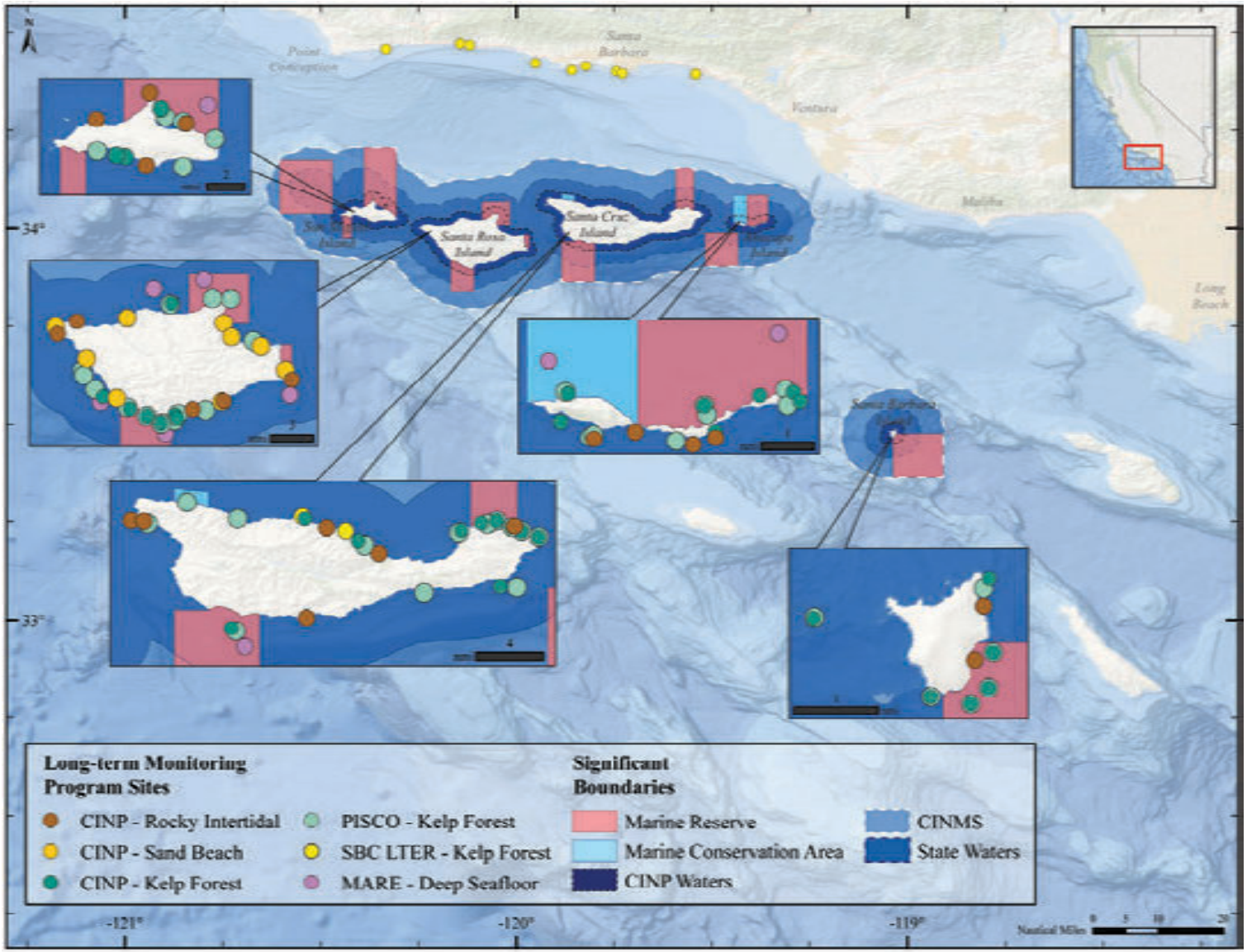
a-from CINP Website; b, c from NPgallery.nps.gov; d-Photograph by Paul Collins, NPgallery.nps.gov.

(Plate 6) The sheer numbers of pinnipeds at Point Bennett during the breeding season make it one of the park's most compelling sights.

Photograph by Jeff Foote, November 2003. NPgallery.nps.gov.

(Plate 7) Lobo Canyon on Santa Rosa Island after nearly two decades free of cattle.

Photograph by L. Dilsaver, October 2017.



(Plate 8) Map of long-term monitoring sites and habitats inside and outside marine protected areas.

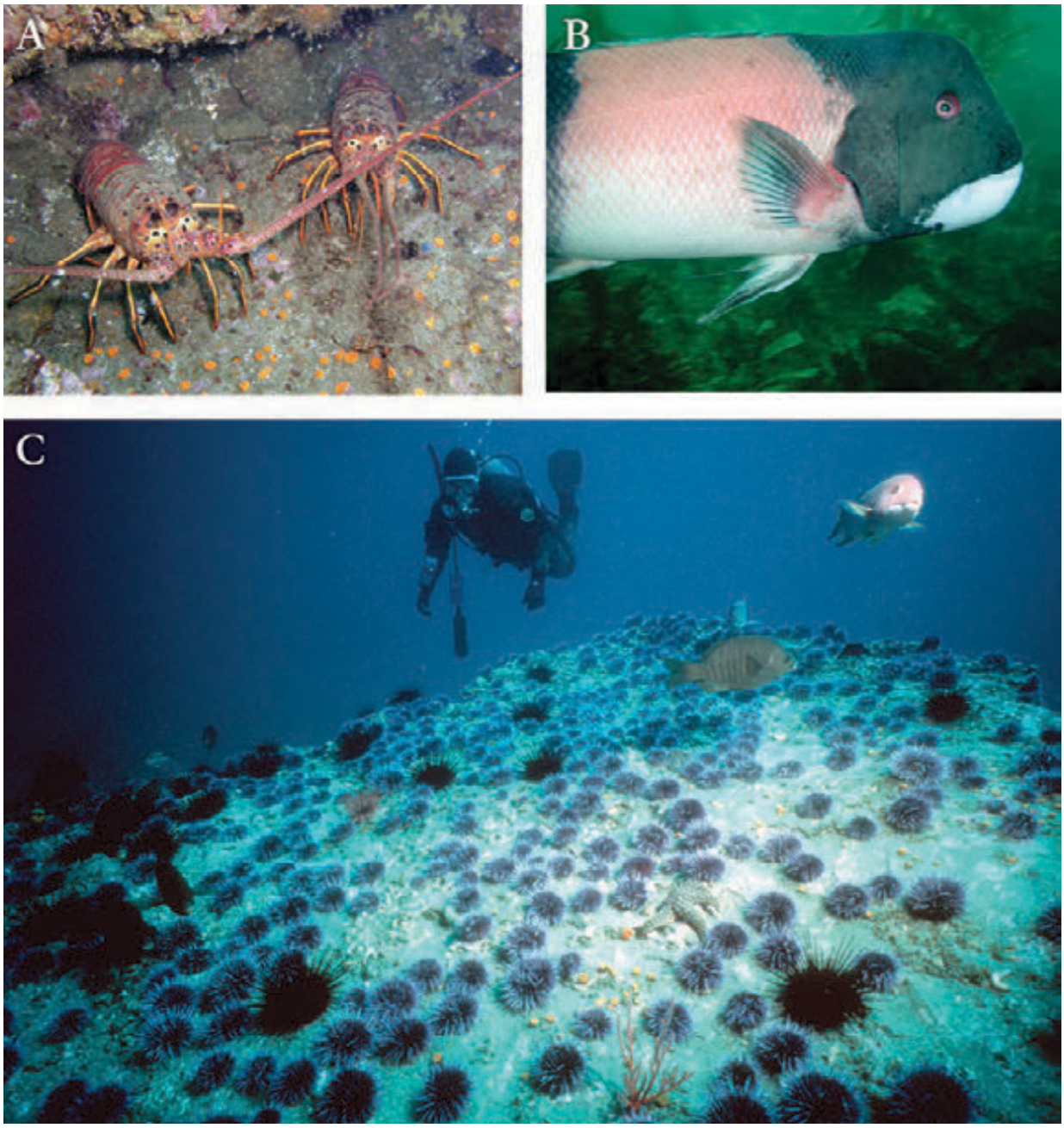
Source: CINMS, "Channel Islands National Marine Sanctuary Condition Report 2016, Volume 1," NOAA, Office of National Marine Sanctuaries, 2018.

(Plate 9) Two divers (here Holly Lohuis and Bill Faulkner), plus a third who took the picture, were required to produce the Underwater Video display of marine organisms from the Landing Cove at East Anacapa Islet to the theater above that site, the park visitor center, and schools in the region.

CINP Digital Image Files.

(Plates 10a and 10b) Windmill Canyon on Santa Rosa Island in 1997 before the removal of cattle and in 2012 after the vegetation responded.

Plate 10a photograph by Kathryn McEachern and 10b photograph by Trey Demmond. Provided by Kathryn McEachern of the US Geological Survey.



(Plate 11 a, b, and c) Three marine organisms:

A-California spiny lobster (*Panulirus interruptus*);

B-California sheephead (*Semicossyphus pulcher*);

C-A barren caused by purple sea urchins (*Strongylocentrotus purpuratus*).

11a photograph provided by Gary Davis, date uncertain; 11b photograph by Dan Richards, 2004, CINP Digital Image Files; 11c photographer by Dan Richards, NPgallery.nps.gov.

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CHAPTER FOUR

Resource Management in the 1970s and 1980s

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CHAPTER FOUR: RESOURCE MANAGEMENT IN THE 1970S AND 1980S

Channel Islands National Park's enabling act mandated completion of a baseline inventory and evaluation of park resources, but even if this had not been legally stipulated, evaluation of the resources was in order to complete the park's General Management Plan (GMP). Superintendent Bill Ehorn initiated Channel Islands' first General Management Plan in 1977 when the monument included only Anacapa and Santa Barbara Islands, plus resource management of San Miguel Island. Enactment of the park bill in 1980 required a new planning effort to supplement the original General Management Plan, which had been completed that year, with additional information about Santa Cruz and Santa Rosa Islands. Further research was needed to inventory all of the new resources that had recently been included in the park's legislative boundaries. These planning-related activities largely defined the park's early resource management program for the first half of the decade. Resource managers worked closely with the park's legally mandated science program to develop accurate and comprehensive baseline inventories of both natural and cultural resources throughout the Northern Channel Islands. While this marks the beginning of the formal, programmatic study of park resources by NPS staff, the need for basic scientific research had been recognized long before it became a legal requirement.

As early as 1966, the monument's Annual Fisheries Resources Report reacted with alarm to the recent intensification of fishing pressure with the introduction of purse-seines and gill nets and concluded that:

> *We stand in immediate need of a comprehensive ecological study of the tidal and subtidal waters of the islands of the Channel Islands National Monument ... Unless, and until, such a study is undertaken and completed we cannot begin adequate and meaningful management of the waters which constitute the Channel Islands National Monument's raison d'etre.*[374]

The following year, the agency's Washington office directed Channel Islands to initiate a Natural Sciences Research Plan, which would begin with a bibliographic survey of all biological research relating to the Northern Channel Islands in order to determine what research had already been conducted and what still needed to be done. But this was only the start of a more ambitious and comprehensive program, as the Washington directive went on to explain, "Information gained in pursuit of this [bibliography] will be utilized also to supplement The Basic Ecosystem Survey, a map and text to describe ecosystems, communities, species, and natural resources in general for master planning purposes."[375] The survey was supposed to provide guidance for managing the monument's natural resources, with the results incorporated into the monument's anticipated Master Plan (as general management plans were called at that time).

Superintendent Don Robinson ignored this directive and it was not taken up for another decade. Superintendent Ehorn finally implemented it during the late 1970s through a cooperative agreement with researchers at the Santa Barbara Museum of Natural History under the direction of Dr. Dennis M. Power. Researchers completed the final document in August 1979. It included a literature review with an annotated bibliography and inventories of native vertebrate and

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374 CINM, "Annual Fisheries Resources Report," CINP Archives, Cat. 13117, Box 8, Folder 7.

375 Ibid.

invertebrate species, botany, and geology. The report also addressed introduced exotics and treatment methodologies. While this was the most comprehensive scientific survey to date on the Northern Channel Islands, it still did not provide adequate management guidance. More importantly, it did not include Santa Rosa and Santa Cruz Islands, which were added to the new park the following year. Nevertheless, the museum's report served as an important precedent for the clause in the park bill requiring a natural resources inventory program.[376]

This study was not the only precedent, however. In 1969, the California Department of Fish and Game, with assistance from park staff, established underwater transects around Anacapa and Santa Barbara Islands to monitor the effects of the blowout on Union Oil Company's Platform A. Although Superintendent Robinson had used the monitoring program to justify closure of these waters to commercial fishing, his action had helped convince the NPS Directorate of the genuine need to monitor population dynamics of commercially valuable marine species in order to better manage these resources.[377] But apart from research conducted by the National Park Service, researchers from private organizations and other governmental institutions also made several important studies. The accumulation of valuable data from these studies contributed toward the effective management of island resources by park staff. Among the more noteworthy of these projects because of their scale and duration, were marine mammal studies on San Miguel Island conducted under the authority of the Bureau of Commercial Fisheries (later the National Marine Fisheries Service) in response to the Marine Mammal Protection Act of 1972; seabird studies conducted primarily on Santa Barbara Island by scientists from the University of California; and a three-year intertidal study of the Southern California Bight by scientists from the Bureau of Land Management. These projects, in turn, represented a rich legacy of scientific research on the Channel Islands that predated the establishment of the national park and helped determine research and resource management priorities after 1980.[378]

RESEARCH PRECEDENTS

Marine Mammals, History, and Conditions

Preservation of marine mammals and associated marine species, such as seabirds, was a leading justification for the establishment of the national monument in 1938. Although this was not formally included in the founding proclamation, it was understood by senior NPS managers and often stated explicitly. For example, Regional Director Tomlinson in 1945 wrote "...the Channel Islands National Monument was specifically set aside to serve as a refuge and for the protection of marine wildlife."[379] Simply enforcing this commitment became a consuming task for NPS staff over the first few decades of the monument's existence because it was common practice at that time for fishermen and other boaters to shoot these animals.[380] No legal protection existed for marine mammals until passage of the Marine Mammal Protection Act (MMPA) in 1972. In fact, the California Department of Fish and Game periodically culled the number of marine

376 Dennis M. Power et al., *Natural Resources of the Channel Islands National Monument, California* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1979).

377 Ibid.

378 Ibid.

379 Regional Director Tomlinson to a prospective concessioner, October 5, 1945, NASB, CHIS, Box 14, Folder 900.

380 NPS Regional Biologist to Regional Director, February 28, 1941, Ibid., Folder 201.

mammals because it believed the animals competed for fish and damaged nets, thereby threatening economically valuable commercial and sport fishing industries. National Park Service policies prevented them from doing this in monument boundaries, though in 1942 the state requested permission to enter the monument to reduce the number of Steller sea lions by killing 50% of all males and pups. The National Park Service denied the request even after the state appealed and cited a wartime need to protect the fisheries.[381] One of the principal reasons the National Park Service sought to extend the monument boundaries around Santa Barbara and Anacapa Islands in 1949 was to increase the area of federal protection for marine mammals, not only against the random depredations of private hunters and fishermen, but against the official management practices of the state.

At one time, California's coastal waters teemed with an extraordinary abundance of marine mammals, including cetaceans (whales) and pinnipeds, as well as sea otters. At least six species of pinniped were common in the Southern California Bight and used the Channel Islands both for breeding and hauling-out (that is, to rest). These included the northern fur seal (*Callorhinus ursinus*), the Guadalupe fur seal (*Arctocephalus townsendi*), the Steller sea lion (*Eumetopias jubatus*), the California sea lion (*Zalophus californianus*), the harbor seal (*Phoca vitulina*), and the northern elephant seal (*Mirounga angustirostris*). The sea otter (*Enhydra lutris*) was also abundant here—its original range extending from the Bering Sea to Baja California. The earliest attempt to describe these marine mammals and inventory their range and numbers in any systematic fashion was made in 1874 by Captain Charles M. Scammon of the US Revenue Marine (an early predecessor of the US Coast Guard). Although Scammon was a nonspecialist and his study mostly anecdotal, it remains a valuable document because it provides a record of the profound impact that modern human activities had on these animals. Scammon's work was published toward the end of the seal fishing industry's heyday when the majority of commercially valuable animals were in sharp decline or already close to extinction, but his experience and that of his informants extended back far enough to give a useful account of the industry's activity and the effect it had on native marine mammal populations (see plate 6, chapter three).[382]

Scammon was more inclined to romanticize the adventurous life of the hunters, however, than to criticize the consequences of their depredations, which were profound. Among the earliest of these coastal species to become the object of intense exploitation by European hunters was the sea otter, which was valued for its fine fur. The Russians began hunting these animals in the Bering Sea and off the coast of Alaska during the late 18th century. In 1807, as the northern populations began to decline, the Russians agreed to a mutual working relationship with American fur traders from New England and began hunting farther south, along the coast of California all the way to the Baja peninsula. Among several favorite hunting grounds was San Miguel Island, where large numbers of otters frequently congregated.[383] The California hunt had reached maturity by 1812, when the Russians established an outpost called Fort Ross near Bodega Bay, north of San Francisco. Over the next few decades, an average of 5,000 sea otters were killed each year by Russian and American fur traders using native Aleutian or Native Hawaiian hunters. The total number taken during the heyday of this activity was estimated at

381 George Miller, June 15, 1942, and Lowell Sumner, July 8, 1942, Ibid., Folder 700, "Wildlife."

382 Charles M. Scammon, *The Marine Mammals of the North-Western Coast of North America* (San Francisco: John H. Carmany and Co., 1874).

383 Scammon, *The Marine Mammals*, 169.

approximately 200,000 animals, but the otter population, as an economically exploitable resource, had largely been exhausted by the middle of the century. The Russians abandoned their California colony in 1841 due primarily to the declining value of the otter hunt.[384]

Otters continued to be hunted off the California Coast for another two decades. George Nidever described hunting them at the Channel Islands during the 1850s.[385] But by 1870, when Charles Scammon was writing, the sea otters had nearly been extirpated from these waters and were believed to be extinct. Ever the optimist in such matters, Scammon attributed the otter's apparent disappearance to its sagacious choice to relocate to a more isolated haunt where it might remain unmolested. As it happens, Scammon's romanticism proved at least partially correct, for a very small number of California sea otters did escape the great hunt and survived in complete obscurity until about 100 of the remnant population were discovered in 1938 off the mouth of Bixby Creek a few miles south of Monterey. These survivors became the nucleus of the present Monterey Bay population.[386]

By the late 1970s, approximately 1,650 sea otters lived off the central California coast. Although this represented a robust gain from 1938, it was still far from the 16,000 California subspecies of sea otter (*E. lutris nereis*) that were estimated to have ranged between Baja California and Oregon prior to the 19th century. Even more worrisome to biologists than overall numbers, however, was the limited range of the population itself, which remained concentrated along the central coast between Santa Cruz and San Luis Obispo. More than 100 million barrels of oil traveled by tankers through these same waters every year, and biologists feared that a single accident could eliminate the entire California sea otter population. This concern, together with the listing of the California subspecies in 1977 as threatened under the Endangered Species Act (ESA), led to the proposal to establish a separate population within the subspecies' historic range but outside the area considered vulnerable to shipping traffic. This proposal became an integral part of the recovery plan that was legislatively mandated under the terms of the Endangered Species Act. The US Fish and Wildlife Service was designated to manage sea otters and a handful of other marine mammals. Congress approved the recovery plan in November 1986, and implementation began early the following year.[387] Federal biologists captured sea otters around Monterey Bay and translocated them to San Nicolas Island. San Nicolas was selected for the new population, both because of its remoteness as the most seaward of all the Channel Islands and because it provided good logistical support to facilitate management of the program as an active US Naval base. The US Fish and Wildlife Service eventually brought a total of 138 animals there.[388]

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384 Adele Ogden, "Russian Sea-Otter and Seal Hunting on the California Coast, 1803-1841," *California Historical Society Quarterly* 12 (3) 1933, 217-239.

385 William Henry Ellison, ed., *The Life and Adventures of George Nidever, 1802-1883* (Berkeley: University of California Press, 1937).

386 Rolf L. Bolin, "Reappearance of the Southern Sea Otter along the California Coast," *Journal of Mammalogy* 19 (3) 1938, 301-303; Augustin S. MacDonald, *Pacific Pelts: Sea Otters Choose California Coast* (Oakland, CA: n.d., 1938); and Paul Bonnot, "The Sea Lions, Seals and Sea Otter of the California Coast," *California Fish And Game* 37 (4) Oct. 1951, 371-389.

387 Public Law 99-625 (H.R. 4531), "An Act to Improve the Operation of Certain Fish and Wildlife Programs," approved Nov. 7, 1986.

388 US Department of the Interior (hereafter DOI), Translocation of Southern Sea Otters: Draft Supplemental Environmental Impact Statement (Ventura, CA: US Fish and Wildlife Service, 2005); Galen B. Rathbun, Brian B. Hatfield, and Thomas G Murphey, "Status of Translocated Sea Otters at San Nicolas Island, California," *The Southwestern Naturalist* 45 (3) 2000, 322-375.

The program was controversial from the start. Not only did scientists question the wisdom of the recovery plan on ecological and practical grounds, but commercial and sport fishermen, who justifiably feared competition from the voracious animals, fiercely opposed the very idea of actively expanding their range. In deference to the interests of the fishermen, Congress established a "no-otter zone" as part of the 1986 recovery plan. This legislatively excluded sea otters from all coastal waters south of Point Conception, with the exception of San Nicolas Island, including the area around Channel Islands National Park. Any otters that wandered into this zone would have to be captured by the US Fish and Wildlife Service and relocated north of Point Conception. This stipulation exacerbated criticism of the plan from nearly every party, since it was widely and correctly believed that the no-otter zone would be nearly impossible to enforce. As it turned out, this was only one of many problems that would trouble the San Nicolas Island translocation program.[389]

Just as valuable to European hunters as the sea otter was the fur seal. The northern species of this pinniped (*Callorhinus ursinus*) was found in great abundance on the Pribilof Islands in the Bering Sea, when Russian seal hunters first explored these islands in the late 18th century.[390] The northern fur seal's range originally extended as far south as the Channel Islands, where it overlapped with the northern range of the Guadalupe fur seal (*Arctocephalus townsendi*). Like the sea otter, the fur seal was valued for its soft, fur-covered pelts, which were used to manufacture a variety of luxury items. Northern fur seals were hunted, along with the sea otter, by Russian and American fur traders as their operations moved down the California coast over the next half century. By the 1850s, the fur seal had been extirpated from its California range, though it remained relatively abundant in the north around the Pribilof Islands, where as many as four million were estimated to remain in 1867, when Russia sold Alaska to the United States. When Russia controlled these waters, its government authority had to some degree regulated the hunt and prevented over-exploitation of the fur seal herds, but under American laissez-faire practices, the pace of the hunt quickened rapidly. Over the next 30 years, between 2,000,000 and 3,000,000 seals were killed, reducing the herd to a meager 132,000 by 1910 when a census was made. Much of this decline was due to the introduction of pelagic hunting (hunting from deep water vessels) which proved far more effective than hunting the animals on land. In response to the alarming results of this census, the North Pacific Fur Seal Convention was ratified by the United States, Great Britain, Russia, and Japan in 1911, banning the practice of pelagic hunting and granting jurisdiction to the United States federal government to manage onshore hunting. In 1966, the Fur Seal Act banned all commercial hunting of fur seals on the Pribilof Islands, permitting only subsistence take by native Aleuts and Inuits. Two years later, a small colony of northern fur seals was discovered once again breeding on San Miguel Island after an absence of

389 William Booth, "Reintroducing a Political Animal," *Science* 241 (4862) 1988, 156-158; Jim Primrose (letter), "Transplanting Sea Otters to San Nicolas Island," *Los Angeles Times*, July 18, 1987; Joanna M. Miller, "Scientists Call Otter Project Unrealistic," *Los Angeles Times* (Ventura County Edition), October 19, 1992; DOI, NPS, "Restoration of Southern Sea Otters within the Channel Islands National Park: Briefing Statement," February, 1993. CINP Archives, Cat. 13117, Box 1, Folder 10.

390 Although the Pribilof Islands are one of the largest breeding territories of the northern fur seal, the species has an extensive historic range in both northern and southern hemispheres that once included many other breeding colonies. For example, in the southern hemisphere, the rookery at Desolation Island (Kerguelen Island) in the southern Indian Ocean was probably comparable in size to the rookeries on the Pribilof Islands in the north. But hunting of fur seals in the southern hemisphere showed even less restraint than in the northern hemisphere, and the species was grossly over-exploited between 1800 and 1830, so that by 1850 it had nearly disappeared. A similar experience was shared by the southern elephant seal colonies on Desolation Island. Bonnot, "The Sea Lions, Seals and Sea Otter"; and Scammon, *Marine Mammals*.

100 years. They had migrated south from the Pribilof Islands where the colony had grown steadily since 1911.[391]

Similar to the northern fur seal is the Guadalupe fur seal (*Arctocephalus townsendi*), though it has a much more limited range and prefers warmer waters. Originally, these animals were found from the Farallon Islands off San Francisco south to the central Baja California peninsula. One of the largest breeding colonies was found on Guadalupe Island, from which the species takes its common name. Unfortunately, this territory lies in the path through which whalers and fur traders regularly sailed, and the Guadalupe fur seals were hunted indiscriminately. As early as 1825, the species had been extirpated from Alta California waters, most likely by Russian otter hunters, who recorded taking as many as 1,500 fur seals annually from the rookeries on the Farallon Islands after 1812.[392] These may have included both northern fur seals and Guadalupe fur seals. Hunting continued off Baja California until 1894, when the Mexican government passed protective legislation. By the early 20th century, the species was thought to be extinct, but in 1949 a single bull was observed on San Nicolas Island. This sighting was followed several years later by the discovery of a small breeding colony that had re-established itself on Guadalupe Island. This colony has continued to grow and subsequently spread to nearby San Benito Island, while nonbreeding adults began to appear annually on San Miguel Island after 1969.

The northern elephant seal (*Mirounga angustirostris*) is the largest of the pinnipeds found on the California islands. The bulls weigh up to 6,000 pounds and average about three times larger than the females. This extreme example of sexual dimorphism (distinct difference in size or appearance) is exceeded only by the fur seals among marine mammals.[393] The southern elephant seal (*M. leonina*) was found in great abundance on Desolation Island (Kerguelen Island) in the southern Indian Ocean, where hundreds of thousands were taken by American whaling ships in the early 19th century. The original breeding range of the northern elephant seal was confined to the Pacific Coast of North America and extended from Point Reyes to the middle of the Baja peninsula in Mexico. As late as 1870, Scammon noted that they still numbered in the thousands on the California islands from San Miguel south into Mexican waters and on some of the more remote stretches of the mainland coast.[394] By this time, however, their numbers were in steep decline, owing to the commercial desirability of the oil that could be rendered from their body fat. Scammon considered this oil to be superior to that of whale oil for lubricating purposes. He described one particularly fat bull taken at the rookeries on Santa Barbara Island in 1852, which yielded 210 gallons of the precious commodity. The northern elephant seal's range overlapped with that of the gray whale (*Eschrichtius robustus*), and when the latter could not be found, the whalers would take elephant seals instead. By the late 19th century, elephant seals had been extirpated from California, and only a few remained in Mexican waters around Guadalupe Island and San Cristobal Bay, where

391 Bonnot, "The Sea Lions, Seals and Sea Otter"; Richard S. Peterson, Burney J. LeBoeuf, and Robert L. DeLong, "Fur Seals from the Bering Sea Breeding in California," *Nature* 219, 1968, 899-901. According to George (Bud) Antonelis, the North Pacific Fur Seal Convention became a nexus for the National Marine Fisheries Service research station's existence, as the Convention required its members to study and monitor populations of fur seals at breeding rookeries.

392 Ogden, "Russian Sea-Otter and Seal Hunting."

393 The northern fur seal bull averages between four and five times larger than the female.

394 Scammon, *Marine Mammals*, 115-123.

they were now legally protected.[395] They were not seen again on the Northern Channel Islands until 1938, when Paul Bonnot observed four yearlings at Adam's Cove on San Miguel Island. By 1948, a small number had also returned to their historical rookeries on Santa Barbara Island.[396]

Two species of sea lions originally overlapped at the Channel Islands. The Steller sea lion (*Eumetopias jubata*) is a northern species that typically bred along the Pacific Coast of Siberia and Alaska and down the North American coast to Southern California. The Channel Islands were the southern-most breeding grounds of this species. The California sea lion (*Zalophus californianus*) prefers warmer waters, and its breeding range is confined to the coast of Mexico and the southern half of California, though nonbreeding adults range as far north as southern Alaska. Both species were hunted during the 19th century, though they were less desirable than the fur seal or the sea otter. During the heyday of the sea otter hunt, sea lions were often harvested by native Aleuts, who were brought south by the Russians to hunt otters. The Aleuts used the sea lion flesh for food and their hides, intestines and internal organs for clothing. With the decline of the more economically valuable species of marine mammals, European and American hunters began to target the sea lions more intensively. Scammon described the slaughter that took place during the 1860s and 1870s along the coast of California and the Baja peninsula when tens of thousands of sea lions were killed for their oil. The impoverishment of the more profitable species of marine mammals is illustrated by how comparatively little oil could be derived from sea lions—between three and four adult sea lions were required to produce a single barrel.[397] Despite the animal's marginal value for oil, this exploitation effectively reduced California's once vast herds to only a few thousand by the early 20th century. By this time, sea lion populations were too small to support an industry and systematic hunting largely ended. Hunting continued primarily for the "trimmings," the male sexual organs which were dried and sold to the Chinese for the preparation of a traditional aphrodisiac. Beginning in the early 20th century, many sea lions were also captured for zoos and marine parks. The California sea lion was preferred because of its intelligence and relative docility.[398]

The harbor seal (*Phoca vitulina*) is one of the smaller pinniped species and the least pelagic, preferring to remain close to shore, often in estuaries, bays, and harbors from which the species derives its common name. The harbor seal is also the most widely distributed of the pinnipeds, with populations found throughout the northern hemisphere in both the Atlantic and Pacific Oceans. The subspecies that occurs in the eastern Pacific along the shores of California is *P. vitulina richardii* and ranges from the arctic shores of Alaska in the far north to the southern tip of Baja California. Harbor seals lack the dense coats of fur that were so appealing to hunters during the 19th century, depending instead on layers of blubber to insulate them against the cold.[399] Their relatively small size, however, made them unattractive as a commercial source of oil. Charles Scammon, who referred to the species as leopard seals for their distinctively spotted hides, did not observe any extensive commercial utilization of these animals, although he did

395 Bonnot, "Sea Lions, Seals and Sea Otter." Bonnot claimed they were already extinct in California waters by 1870, but this conflicts with Scammon's observations.

396 Ibid.

397 Scammon, *Marine Mammals*, 124-139.

398 Bonnot, "Sea Lions, Seals and Sea Otter."

399 Allan A. Schoenherr, C. Robert Feldmeth, and Michael J. Emerson. *Natural History of the Islands of California* (Berkeley, CA: University of California Press, 1999) 124-126; Sarah G. Allen, Joe Mortenson, and Sophie Webb, *Field Guide to Marine Mammals of the Pacific Coast* (Berkeley: University of California Press, 2011), 431-442.

note that they yielded a very high quality oil.[400] Nevertheless, harbor seals were hunted throughout the 19th century, often for food to support the hunters who were engaged in harvesting more economically important marine mammals.[401] One observer writing toward the end of that century also noted that the harbor seals' habit of hauling-out in bays and harbors near human settlement made them vulnerable to idle potshots, who "make a mark of every animal they see, whether they can use it or not..."[402] By the early 20th century, the harbor seal became a target for systematic culling by bounty hunters and fishermen to reduce competition for commercially valuable fin fish.[403]

With the declining commercial importance of marine mammals by the end of the 19th century, there was little interest in studying them. Incidental observations were made by the US Fish Commission and the California Fish and Game Commission (CFGC) during the early 20th century, but those chiefly interested in marine mammals were fishermen, who saw the pinnipeds as competition. In 1927, Paul Bonnot of the US Bureau of Commercial Fisheries, the ancestor of the National Marine Fisheries Service within NOAA, investigated complaints from fishermen in California about the alleged depredations of seals and sea lions. The resulting study, which Bonnot completed the following year, was noteworthy for being the most comprehensive survey of marine mammals on the California coast since Charles Scammon's 1874 treatise.[404] It was also one of the earliest attempts at a scientifically based investigation of California pinnipeds that included population censuses. Although Bonnot's investigation took in most of the California coastline, he encountered only three species of noncetacean marine mammals, the Steller sea lion, the California sea lion, and the harbor seal. Sea otters and fur seals were presumed to be extinct or locally extirpated from California by this time, while the northern elephant seal survived only in Mexican waters. Of the three species Bonnot observed, all were present on the Northern Channel Islands. In 1928, for example, he counted 429 California sea lions and 592 Steller sea lions on San Miguel Island. He also found small colonies of California sea lions on Anacapa and Santa Barbara Islands. Only a handful of harbor seals were present and these were confined to San Miguel.

Bonnot gave an interesting history of events that comprised the background to his report, providing a glimpse of the activities that continued to affect pinniped herds on the Channel Islands and throughout California during the early decades of the 20th century. Interest in the animals had been renewed in 1899, when local fishermen persuaded the CDFG to consider managing sea lion populations. Harbor seals were apparently not considered a sufficient threat to merit attention. Following a meeting in San Francisco that year, the state commissioners agreed with the fishing industry that sea lion populations needed to be reduced, though they had little or no actual data to support this conclusion. Since many of the largest colonies were on lighthouse reservations, the Secretary of the Treasury Department, which administered the US Lighthouse Service, was contacted for permission to carry out the culls. Although permission was initially granted, it was quickly revoked in response to protests from the US Fish

400 Scammon, *Marine Mammals*, 164-167.

401 See, for example, Adele Ogden, "Russian Sea-Otter and Seal Hunting on the California Coast, 1803-1841," *California Historical Society Quarterly* 12 (3) 1933, 217-239.

402 Titus Fey Cronise, *The Natural Wealth of California* (San Francisco: H.H. Bancroft & Co., 1868), 440.

403 Victor B. Scheffer and John W. Slipp, "The Harbor Seal in Washington State," *American Midland Naturalist* 32 (2) 1944, 373-416.

404 Paul Bonnot, "Fish Bulletin No. 14: Report on the Seals and Sea Lions of California" (Sacramento, CA: California Division of Fish and Game, 1928).

Commission, Department of Agriculture, and the New York Zoological Society, among others. According to a field agent for the California Division of Fish and Game, several thousand sea lions were killed at Año Nuevo before the cancellation order was received. State game wardens proceeded, however, to cull sea lions from nonfederally protected locations along the coast, and a great many were killed at that time.

Not long after 1900, these systematic culls appear to have ended, possibly owing to their initial success in reducing the size of the sea lion herds. Writing in its 1902 annual report, the US Fish Commission observed "Though no seals have been killed for more than two years, it is a fact that not since that time have they been seen in any numbers in the bays and rivers, and complaints about damage to nets and taking of fish have been very infrequent." Nevertheless, hunting by private individuals continued even after the official culling had ended. Bonnot reported that in 1907 and 1908, hunters killed nearly all of the sea lion bulls of breeding age on San Miguel Island. These continuing depredations finally induced the state legislature, at the urging of natural history societies, to pass a bill in 1909 that protected sea lions in the Santa Barbara Channel and on the Channel Islands. This was the first legal protection to be afforded these marine mammals in California waters. Unfortunately, the law was poorly enforced and illegal hunting of sea lions, primarily for their trimmings, continued to occur. The law also came under repeated attacks from the commercial fishing lobby, which continued to argue that sea lions threatened fish stocks and damaged equipment. These complaints, which were received with increasing frequency by the California Division of Fish and Game after 1926, culminated in Bonnot's investigation the following year.

Bonnot soon discovered that the reason for this sudden upsurge in complaints had little to do with actual sea lion activity but instead resulted from the arrival of bounty hunters from Oregon who had exhausted their supply in that state and now wanted to extend their hunt to California. They had approached California fishermen arguing that the sea lions threatened commercial fish stocks and convinced local fishermen to petition the state to offer a bounty as Oregon had. This was denied and instead it was decided to put the matter to more rigorous investigation. After nearly two years of study, Bonnot realized that the fishermen's allegations were based on little or no evidence and concluded that their interpretation of fishery decline had dubious merit. If marine mammals were having a significant impact on commercial fish stocks, he believed it reflected the diminished state of the stocks themselves due to overfishing rather than the natural appetite of sea lions, especially given the small number of pinnipeds that remained after the great hunts of the previous century.[405] Though he conceded that management through periodic culling might be justified, Bonnot insisted that such management be supported by reliable data gathered from regular censuses of the sea lion populations. Following his own recommendations, Bonnot made periodic surveys of California pinnipeds over the next two decades. His efforts, assisted by other researchers from the Bureau of Commercial Fisheries and the California Department of Fish and Game, represented the first attempt to study population trends of marine mammals in California coastal waters.[406]

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405 Since Paul Bonnot's employer, the Bureau of Commercial Fisheries, was a research agency whose purpose, according to one of its directors, was to work "cooperatively with industry and with the states ... to strengthen the fishing industry and conserve the resource," his conclusions were a little surprising.

406 Bonnot, *Fish Bulletin*, 1-16; Bonnot, "California Sea Lion Census for 1936," *California Fish and Game* 23 (1937) 108-112; and Paul Bonnot and W. E. Ripley, "The California Sea Lion Census for 1947," *California Fish and Game* 34 (1948) 89-92.

In 1958, George Bartholomew, a biologist with the University of California, Los Angeles, made a systematic survey of marine mammals throughout the Channel Islands. He found small breeding colonies of the northern elephant seal that had begun using the Northern Channel Islands. Then in July 1968, Richard Peterson and Burney LeBoeuf of the University of California, Santa Cruz, discovered a small breeding colony of northern fur seals on San Miguel Island. This was the first time this species had been seen south of the Bering Sea since it was hunted nearly to extinction a century earlier. The Guadalupe fur seal was also observed as an occasional visitor to the Northern Channel Islands, but this species did not establish a breeding colony here. These discoveries brought the total number of pinniped species using the Northern Channel Islands to six, with five establishing active breeding colonies at Point Bennett. Smaller colonies also existed on Santa Barbara Island, but San Miguel was the only place where five species bred in relative proximity.[407]

In response to this discovery, a small research station was established at Point Bennett in 1969 under the direction of marine biologist Robert DeLong. The project was sponsored by the Bureau of Commercial Fisheries, which soon after became the National Marine Fisheries Service. The primary activity of the Point Bennett research was to conduct regular censuses in order to document and understand long-term trends in population dynamics. This continued the example set by Paul Bonnot four decades earlier, though having a permanent on-site facility allowed researchers to make careful observations with consistent follow-up. In 1975, the research staff began marking some of the animals with plastic tags to facilitate identification and make it possible to accurately evaluate survival and natality rates within a representative subgroup over time. The plastic tags were not durable enough to survive on sea lions for more than a few seasons of abrasion on rocky shelves, and in 1987. they were replaced by hot-iron branding. Other types of research conducted at the Point Bennett station included behavioral studies of breeding marine mammals. The research activities of this station have continued without significant interruption up to the present time. As of this writing, Robert DeLong continues to work at the station.[408]

The Marine Mammal Protection Act finally gave comprehensive protection under federal law to pinnipeds in 1972. This established a national policy to halt all "takings"—defined as hunting, harassing, capturing, or killing—of marine mammals in US waters and to replenish and maintain healthy population stocks of these species within ecosystems with which they are naturally associated.[409]

A few years later, in 1975, the San Miguel Island colonies received additional, though less formal, support when they captivated Superintendent Bill Ehorn. He had come to the island

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407 Robert L. DeLong and Sharon R. Melin, "Thirty Years of Pinniped Research at San Miguel Island," in *Proceedings of the Fifth California Islands Symposium* (Washington, DC: DOI, Minerals Management Service, 1999). See also, George A. Bartholomew, "Seal and Sea Lion Populations of the California Islands," in Ralph N. Philbrick, ed. *Proceedings of the Symposium on the Biology of the California Islands* (Santa Barbara, CA: Santa Barbara Botanic Garden, 1967); Burney J. Le Boeuf and Michael L. Bonnell, "Pinnipeds of the California Islands: Abundance and Distribution," in Dennis M. Power, ed. *The California Islands: Proceedings of a Multidisciplinary Symposium*, (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1980); Brent S. Stewart, Pamela K. Yochem, Robert L. DeLong, and George A. Antonelis, "Trends in Abundance and Status of Pinnipeds on the Southern California Channel Islands," in F. G. Hochberg, ed. *Third California Islands Symposium: Recent Advances in Research on the California Islands* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1993).

408 Cliff Fiscus, Robert DeLong, and George Antonelis, "Investigator's Annual Report," January 4, 1979, CINP Archives Cat.13117, Box 8, Folder 5; Superintendent's Annual Research Report, 1968, Ibid., Folder 7.

409 US Department of Commerce, National Marine Fisheries Service, Office of Protected Resources, "MMPA Fact Sheet," http://www.nmfs.noaa.gov/pr/laws/mmpa/ Accessed Jan. 12, 2010.

with Chief Ranger Mack Shaver to visit the research facility at Point Bennett and help the scientists tag pinnipeds for censusing. Members of the Marine Mammal Commission who were there to observe a permitted capture of sea lions for commercial use in zoos and marine parks accompanied Ehorn. Sea lions had been taken for this purpose since the beginning of the century, but the Marine Mammal Protection Act had introduced new standards governing the treatment of these animals, and the commission members were present to make sure that the activities did not violate these standards. One of the commission members was Dr. A. Starker Leopold, the son of famed conservationist Aldo Leopold. The younger Leopold was a renowned advisor to the National Park Service who had chaired a committee that met to consider the problem of elk overgrazing at Yellowstone National Park and wound up revolutionizing natural resource management with its 1963 "Leopold Report." As Ehorn described it from the vantage of a bluff overlooking the scene, the operation proceeded with several men coming ashore and herding the sea lions into a tight group. They then threw a net over the individual they wished to capture. All of the animals appeared visibly distressed by these actions and were stampeding across the beach. Seeing this, Dr. Leopold ordered a stop to the operation and revoked the permit.[410]

Afterwards, Leopold and Ehorn discussed the event and Leopold expressed his desire that San Miguel Island be fully protected with only small numbers of people allowed controlled access to witness the marine mammal rookeries at Point Bennett. Ehorn explained that the navy could ensure protection for the island and that the Park Service, through its cooperative agreement with the navy, could provide the sort of management that Leopold envisioned. Dr. Leopold approved of this arrangement, and his support encouraged Ehorn to proceed toward finalization of the cooperative agreement with the navy in 1976, which allowed the Park Service to assume responsibility for managing the island's cultural and natural resources. This had significant consequences for the marine mammal colonies, because it resulted in the permanent presence of a protection ranger on the island who helps the semi-permanent researchers at Point Bennett discourage illegal harassment of these animals.[411]

Since the earliest systematic surveys of marine mammals in the Northern Channel Islands made by Paul Bonnot between 1928 and 1947, when he found only three species of pinnipeds on San Miguel Island, significant population changes had occurred. By 1969, when the permanent research facility was established at Point Bennett, the San Miguel Island colony had increased to include six species. The northern elephant seal had established a breeding population here during the late 1950s, and in 1968 the northern fur seal had begun breeding on the island for the first time in a century, while the Guadalupe fur seal remained a regular visitor. Over the following three decades the population continued to change substantially. Four of the six species continued to grow in numbers, while the Steller sea lion inexplicably declined and finally disappeared from the region altogether, possibly due to environmental changes in the Southern California Bight. The transient Guadalupe fur seal population remained at its previously small numbers.[412]

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410 Superintendent's Annual Report for 1975 (March 11, 1976), CINP Archives, Cat. 13117, Box 1, Folder 7; Bill Ehorn, "The Establishment of Channel Islands National Park," undated typescript, CINP Archives, Acc. 298, Cat. 6835, Folder 39; Bill Ehorn, "Recollection of Dr. Leopold and His Influence on Management of San Miguel Island," undated typescript, Ibid; NPS, National Park Service Handbook of Administrative Policies for Natural Areas, 1968, 88-103.

411 NPS, National Park Service Handbook of Administrative Policies for Natural Areas, 1968, 88-103.

412 Robert L. DeLong and Sharon R. Melin, "Thirty Years of Pinniped Research at San Miguel Island." 401-06.

Seabird Research

While the Channel Islands provide important haul-out and breeding habitat for marine mammals, they also provide similar benefits for ground-nesting seabirds. In a few instances, the Channel Islands represent one of only a handful of active breeding sites for entire species. The ashy storm-petrel (*Oceanodroma homochroa*), for example, breeds only here and on the Farallon Islands near San Francisco, while the Scripps's murrelet (*Synthliboramphus scrippsi*) is confined to a narrow range extending from the islands of Baja California to the Southern California Bight. This species and the Guadalupe murrelet (*Synthliboramphus hypoleucus*) were considered to be the same species, known as Xantus's murrelet, until 2012. The two species are now considered distinct based on a lack of evidence of interbreeding at a shared nesting colony on the San Benito Islands, and differences in facial pattern, bill shape, vocalizations, and genetics.[413] Research and monitoring of seabird populations within the monument have been priorities for the Park Service since the late 1960s, and systematic studies date from the beginning of the following decade. One of the earliest was begun in 1972 by Professor George L. Hunt Jr., of the University of California, Irvine. Hunt and his team initially focused on western gulls (*Larus occidentalis*), which have a large breeding population within the monument. Funded by a grant from the National Science Foundation, Hunt began fieldwork on Santa Barbara Island in 1973, focusing on reproductive behavior of the gulls. His initial research proposal was for six years and concluded in 1978.[414]

This early study provided an invaluable baseline dataset to inform future research and monitoring, but it also uncovered some surprising results. Initial investigations by the research team revealed frequent occurrence of more than normal numbers of eggs in gull nests on Santa Barbara Island. Typically, gulls lay from one to three eggs, but researchers were finding as many as six eggs in each clutch (nest). Over a period of four years, researchers observed an average of just over 10% of clutches with these "supernormal" egg counts. On further investigation, they discovered that the clutches were almost always associated with female pairs, rather than a male-female pair. Publication of these results in 1977 produced a minor sensation in the popular press, with talk of gender-bending lesbian gulls, but subsequent experiments suggested that the phenomenon had less to do with lifestyle than with an imbalance in the ratio of males to females in the colony as a whole.[415] With not enough males to provide viable mates for an overabundance of females, the latter simply paired up among themselves, with both females contributing eggs, hence the unusual size of the clutches. Even though most of these eggs were infertile and would never hatch, the strategy may not have been entirely without purpose, since the occasional promiscuous male would visit the female pairs, increasing their chances for successful procreation to slightly more than zero. More worrisome to scientists was the cause

413 T. P. Birt, H. R. Carter, D. L. Whitworth, A. McDonald, S. H. Newman, F. Gress, E. Palacios, J. S. Koepke and V. L. Friesen, "Rangewide population genetic structure of Xantus's Murrelet (S. hypoleucus)," *The Auk*, 129, 2012, 44–55; J. R. Jehl Jr. and S. I. Bond, "Morphological variation and species limits in murrelets of the genus Endomychura". *Transactions of the San Diego Society of Natural History*. 18, 1975, 9–24; CS1 maint: Multiple names: authors list (link) B. S. Keitt, "Status of Xantus's Murrelet and its nesting habitat in Baja California, Mexico" *Marine Ornithology*. 33, 2005, 105–114.

414 George L. Hunt Jr. et al., "Western Gull Reproductive Biology," Investigator's Annual Report (Natural Sciences Research), January 10, 1979, CINP Archives, Cat. No. 13117, Box 8, Folder 5; Superintendent's Annual Research Report (Natural Sciences), 1968-1978, Ibid., Folders 5-7.

415 For example, "The Sexes: Lesbian Gulls," *Time* magazine, December 12, 1977; Superintendent's Annual Report for 1976 (March 21, 1977), CINP Archives, Cat. 13117, Box 1, Folder 7.

of the sexual imbalance, which seemed unique to the Channel Islands. The phenomenon was later observed in other populations of gulls and terns but nonetheless remained rare. Potential explanations ranged from higher rates of mortality among male birds to hormonal imbalances caused by environmental toxicity. The latter hypothesis seemed especially persuasive at the time on account of the high concentration of organochlorines (PCBs and DDT) that were only then being discovered in the Southern California Bight, but no single explanation proved entirely satisfactory.[416]

In 1976, the Bureau of Land Management implemented a project to support baseline studies of marine birds and mammals throughout the Southern California Bight. Hunt's team received funding through this project to expand the scope of its western gull research to include all resident species of seabirds in the Northern Channel Islands, excepting only the brown pelican, which was an object of special concern and was studied separately. Thirteen species of seabird were known to have once bred in the Channel Islands. This diversity results from the Southern California Bight's position in a marine ecotone, influenced both by the cooler, southward-flowing waters of the California Current as well as the warmer waters of the Southern California Countercurrent that flow north and east. Five northern species of seabird reached the southern limit of their range here while three southern species reached their northern limit. The remaining five occurred both north and south of the Channel Islands. By the time Hunt made his inventory, two of these species, the tufted puffin (*Lunda cirrhata*) and the common murre (*Uria aalge*), no longer bred in the Channel Islands, possibly because of natural climatic fluctuations that had altered their breeding range. Those that continued to breed here included three species of storm-petrel—the ashy (*Oceanodroma homochroa*), Leach's (*O. leucorhoa*), and the black (*O. melania*); three species of cormorant—the pelagic (*Phalacrocorax pelagicus*), the double-crested (*P. auritus*), and Brandt's (*P. penicillatus*); the pigeon guillemot (*Cepphus columba*); Cassin's auklet (*Ptychoramphus aleuticus*); Scripps's murrelet (*Synchliboramphus scrippsi*); the brown pelican (*Pelecanus occidentalis*); and the western gull (*Larus occidentalis*).[417]

Hunt's studies were designed "to provide baseline information on the distribution, abundance, movements, foods and reproductive biology" of these species. His data revealed a range of significant population changes over time that were explained by a variety of causes. Some species, such as the brown pelican and cormorants, suffered substantial population declines due to organochlorides, while others, such as the Scripps's murrelets and Cassin's auklets, had declined on some islands due to predation from introduced exotic predators. Ironically, the researchers also found that the Scripps's murrelet population had simultaneously increased on Santa Barbara Island because of the near-disappearance of one of its key natural predators, the peregrine falcon, as a result of organochloride poisoning. The unexpected discovery of a significant breeding population on Santa Barbara Island, numbering between 1,000 and 2,000 pairs and believed at that time to be the largest in the world, led Hunt to adjust his research design and single out the Scripps's murrelet for more intensive study. The results of his work

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416 George L. Hunt Jr., and Molly Warner Hunt, "Female-Female Pairing in Western Gulls (*Larus occidentalis*) in Southern California," *Science* 196, (4297) 1977, 1466-1467; Michael R. Conover and George L. Hunt Jr., "Experimental Evidence That Female-Female Pairs in Gulls Result from a Shortage of Breeding Males," *The Condor* 86 (4) 1984, 472-476; and John C. Wingfield et al., "Origin of Homosexual Pairing of Female Western Gulls on Santa Barbara Island," in Dennis M. Power, ed., *The California Islands: Proceedings of a Multidisciplinary Symposium* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1980).

417 G. L. Hunt Jr., R. L. Pitman, and H. L. Jones, "Distribution and Abundance of Seabirds Breeding on the California Channel Islands, in D. M. Power, ed. *The California Islands: Proceedings*; George L. Hunt Jr., "Baseline Studies of Seabirds in the Southern California Bight," Investigator's Annual Report (Natural Sciences Research), [for 1976], CINP Archives, Cat. 13117, Box 8, Folder 5.

drew greater attention to the species and its unique vulnerabilities and contributed to future efforts to eliminate exotic predators from the islands.[418]

Studies of the California brown pelican (*Pelecanus occidentalis californicus*) represented the earliest sustained research of seabirds in the Channel Islands National Monument, beginning in 1970, and was stimulated by the discovery of a dramatic decline in breeding success during the late 1960s.[419] In 1969, only four chicks successfully fledged out of more than a thousand nests on Anacapa Island. The following year, only one fledged. This alarming decline was eventually attributed to organochlorine pollution from discharges of waste PCBs and DDTs into the sea near the Palos Verde Peninsula by the Montrose Corporation. Although the California brown pelican came very close to extinction as a result of this pollution, the species rebounded quickly after the discharges ceased in 1972. To assist this recovery, the park staff closed active nesting areas on West Anacapa Island to visitors during the breeding season in 1974. The following year, these closures were made permanent with designation of the entire islet as a Research Natural Area.[420] Monitoring the Channel Islands breeding population of brown pelicans continued for the remainder of the decade and was later folded into the seabird monitoring protocol of the park's early Inventory and Monitoring (I&M) program initiated in the 1980s.[421]

Marine Ecosystems

Marine life represents the most extensive and diverse biological resource associated with the Channel Islands. However, the marine environment is less accessible than the terrestrial, especially prior to modern innovations such as SCUBA (self-contained underwater breathing apparatus), and research in this area lagged considerably behind land-based research. Some exceptions exist where there was an economic interest that could support scientific research, sometimes in an advocacy role. For example, early studies of giant kelp (*Macrocystis pyrifera*) conducted by the Scripps Institute of Oceanography were made possible largely as a result of fees paid by private harvesting companies. Later, some of these companies funded their own research to defend harvesting practices against critics including the National Park Service.[422] As discussed earlier, the Kelco Company presented its own research as testimony at the hearings on the Channel Islands National Park bill in 1979. The US Navy hired contractors to study the

418 George L. Hunt Jr., and Audrey Martin, "Breeding Biology of Xantus' Murrelets," Investigator's Annual Report (Natural Sciences Research), January 11, 1978, CINP Archives, Cat. 13117, Box 8, Folder 5.

419 The initial research was conducted by Frank Gress and Howard Leach of the California Department of Fish and Game and reported in Gress, "Reproductive status of the California Brown Pelican in 1970 with notes on breeding biology and natural history," Administrative Report 70-6, California Department of Fish and Game, Wildlife Management Bureau, 1970; and Superintendent's Annual Research Report, January 7, 1972, CINP Archives, Cat. 13117, Box 1, Folder 7.

420 Superintendent's Annual Reports for 1974 and 1975 (February10, 1975 and March 11, 1976), CINP Archives, Cat. 13117, Box 1, Folder 7.

421 Ralph W. Schreiber and Robert W. Risebrough, "Studies of the Brown Pelican," *The Wilson Bulletin* 84 (2) 1972, 119-135; Daniel W. Anderson and Franklin Gress, "Status of a Northern Population of California Brown Pelicans," *The Condor* 85 (1) 1983, 79-88; T. Ingram, F. Gress, G. L. Hunt Jr., and D. W. Anderson, *Handbook for Monitoring Selected Seabird Species in the Channel Islands National Park* (San Francisco, CA: National Park Service, 1983).

422 J. F. Wohnus, "The Kelp Resources of Southern California," *California Fish and Game* 28 (4) 1942, 199-205; and W. L. Scofield, "History of Kelp Harvesting in California," *California Fish and Game* 45, (3) 1959.

benthic environment in the vicinity of the monument, but most of the data from these defense-related studies were classified and, thus, unavailable to the National Park Service.[423]

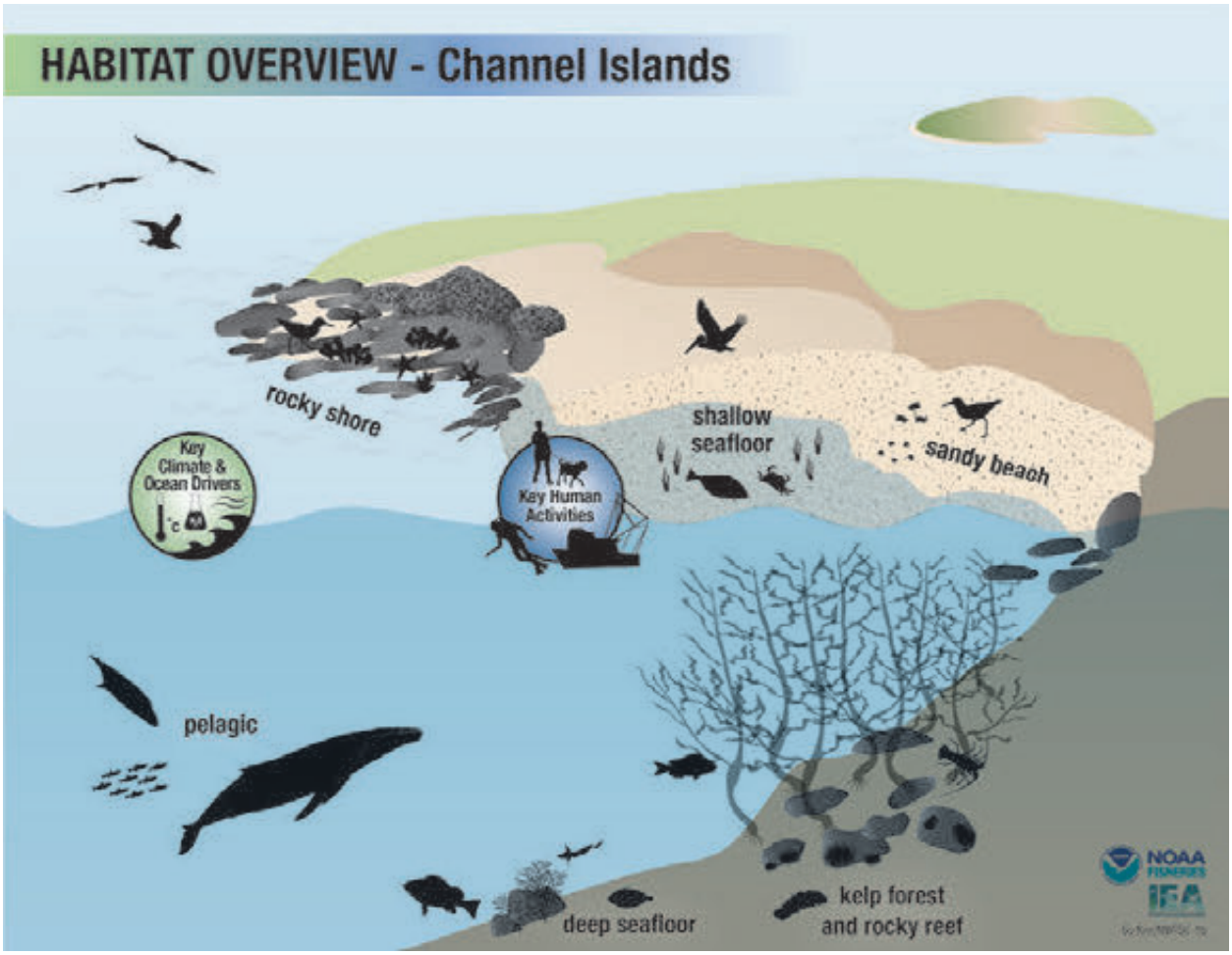

Figure 4-1. The diversity of marine habitats in the Santa Barbara Channel are shown in this diagram from the Channel Islands National Marine Sanctuary.

Source: "Condition Report 2016."

The earliest NPS efforts to study the marine resources of the monument were limited to monitoring fisheries activity. This began during the 1960s when the islands were managed from Cabrillo National Monument. Information came primarily from personal observations of recreational fishermen in boats operating within the monument's one-mile seaward boundary. Data on commercial activities became available only after a permit system was introduced with special regulations implemented in April 1972.[424] These regulations also closed portions of both

423 Department of Defense contractors involved in research of marine resources around the Channel Islands were General Motors Defense Research Laboratories in Santa Barbara, Scripps Institute of Oceanography in La Jolla, and the Naval Electronic Laboratory in San Diego. Superintendent, Cabrillo and Channel Islands, "Annual Fishery Resources Narrative Report, Cabrillo and Channel Islands, 1965," January 3, 1966, CINP Archives, Cat. 13117, Box 8, Folder 7.

424 36 CFR 7.84 "Channel Islands National Monument"; and "Annual Aquatic Resources Report for 1972: Channel Islands National Monument," January 18, 1973, Ibid.

monument islands to commercial lobster and abalone fishing. All of these data provided only indirect information about marine resources.[425]

As early as 1966, the monument acknowledged the need for "a comprehensive ecological study of the tidal and subtidal waters of the islands."[426] Nearly a decade later, the recommendation was repeated in the monument's 1975 Natural Resource Management Plan. That year, the earliest studies to address the monument's marine environment were implemented. The most ambitious of these, led by Mark M. Littler of the University of California, Irvine, and funded by the Bureau of Land Management, was a comprehensive inventory of the intertidal zone at selected sites throughout the Southern California Bight. The purpose of this study was "to establish quantitatively reliable and reproducible baseline assessments of the distribution and abundance of rocky intertidal organisms" represented by ecosystems on San Miguel, Santa Cruz, Santa Barbara, San Nicolas, Santa Catalina, and San Clemente Islands, as well as four mainland sites. The study continued through 1978.[427] Also initiated in 1975 was a study of sea urchins (*Strongylocentrotus purpuratus* et al.) on Anacapa Island by Dana Seagars of San Diego State University. Seagars' study was motivated by concern over the growing market for sea urchins and focused on measuring possible adverse effects on the population. Superintendent Ehorn noted that this and the ongoing George Hunt study of western gulls on Santa Barbara Island were the most active research projects in the monument at that time.[428] Another marine project recommended in the Natural Resources Management Plan, an "Assessment of Visitor Impact on Anacapa Island Tidepools," began shortly thereafter. Mark Littler conducted this study through a contract managed by the regional office. In 1982, it became the long-term Rocky Intertidal Monitoring Program under the park's early I&M program. VTN-Oregon, Inc., a private consulting firm, carried out the actual monitoring by contract with the National Park Service.

Following the Supreme Court decision of 1978 that overturned the monument's 1949 seaward boundary extension, authority for the marine environment off the monument islands was transferred to the state and managed by the CDFG. The monument ceased collecting data on commercial and recreational fishery harvests, and scientific research by the National Park Service temporarily halted. Only in 1980, following the establishment of the national park, did research resume when NPS marine biologist Gary Davis implemented a project in cooperation with CDFG to monitor the population dynamics of subtidal biota. This Marine Ecosystem Dynamics Monitoring Project established 24 marine sampling sites that were quickly reduced to 16 sampling sites due to time and resources concerns in deeper waters around all of the park islands. Sampling continued over successive years in the expectation that long term monitoring of population trends could help inform the National Park Service and California Department of Fish and Game "as to what actions should be considered to better protect the natural resources of the park."[429]

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425 "Annual Aquatic Resources Report for 1974: Channel Islands National Monument," December 24, 1974, Ibid.

426 "Annual Aquatic Resources Report for 1966: Channel Islands National Monument," January 10, 1967, Ibid.

427 M. M. Littler, "Overview of Rocky Intertidal Systems in Southern California," in D. M. Power, ed. *The California Islands: Proceedings*; Superintendent's Annual Research Report, 1977-1982, CINP Archives, Cat. 13117, Box 8, Folder 5, and Box 9, Folder 2.

428 "Annual Aquatic Resources Report for 1975: Channel Islands National Monument," December 17, 1975, CINP Archives, Cat. 13117, Box 8, Folder 7; Superintendent's Annual Report for 1975 (March 11, 1976), CINP Archives, Cat. 13117, Box 1, Folder 7.

429 "Annual Aquatic Resources Report for 1982: Channel Islands National Park," December 16, 1982, Ibid., Folder 4.

This monitoring program was subsequently named the Kelp Forest Monitoring Program (KFMP) and has been collecting annual data at these original 16 sites from 1982 to the present. The data collected by the KFMP became instrumental in documenting the dramatic decline in abalone populations and led to an entire fishery closure in 1997 by CDFG. As of 2020, abalone populations have yet to recover and the closure remains in effect. In addition, information and park staff were instrumental in arguing the need for added protection for white abalone (*Haliotis sorenseni*) which had declined more severely. White abalone were listed as an endangered species in 2001, the first marine invertebrate ever to have this protection status. The second marine invertebrate species to be listed under the Endangered Species Act was the black abalone (*Haliotis cracherodii*). This species was listed in large part because of the park's Rocky Intertidal Monitoring Program, which, like the subtidal KFMP, had collected data since 1982. The KFMP was expanded in 2005 with the addition of 16 long-term monitoring sites that were strategically placed along with the original sites to document differences inside and adjacent to the new State Marine Protected Areas that were implemented in 2003.[430]

NATURAL RESOURCE MANAGEMENT

From the earliest days of the national monument, exotic animals were recognized as invasive and damaging to island habitats. Superintendent Bill Ehorn recognized his responsibility to protect those resources and took politically extraordinary steps to respond.

Burros on San Miguel Island

In early 1977, while Ehorn was organizing the advisory team for San Miguel Island, he took it upon his own initiative to eliminate a small herd of introduced burros that had become naturalized there. This colorful incident would become one of Ehorn's favorite stories years later. The burros had originally been brought to the island by ranchers, probably during the William Waters period, as Water's resident manager John Russell mentions, using them for hauling lumber in 1906.[431] By the 1950s, they had become feral and grown to a sizeable herd despite the navy's attempts to eliminate them through aerial gunnery. The navy had successfully eliminated the island's feral sheep in this manner. Like the sheep, the burros contributed to a serious erosion problem by grazing its sparse vegetation, creating trails along hillsides, and by the physical action of their large hooves. Particularly worrying to resource managers was the impact that the burros might be having on the fragile caliche forests, which could not sustain any trampling without suffering irreparable damage. Ehorn learned that veterinarian Dr. Charles Douglas of the University of Nevada, Las Vegas, had assisted Death Valley and Joshua Tree National Monuments and Grand Canyon National Park with their burro issues. At Ehorn's request, Douglas examined the burros during the winter of 1976 and found them in poor health with "grotesquely elongated hooves that hampered walking or running." This is a problem with many ungulates when they are confined to soft, sandy environments where few hard surfaces

430 Kushner D J, Rassweiler A, McLaughlin J P, Lafferty K D. "A multi-decade time series of kelp forest community structure at the California Channel Islands." *Ecology* 94 (11) November 2013, 2655. Available from: https://doi.org/10.1890/13-0562R.1.

431 Dewey Livingston, "Island Legacies: A History of the Islands Within Channel Islands National Park," NPS Historic Resource Study, 2016, 103.

are available to abrade their ever-growing hooves. Douglas also observed few old individuals in the San Miguel herd, suggesting a high rate of mortality.[432]

Figure 4-2. Burros on San Miguel Island shortly before their elimination by NPS officials.

Source: Photographer and date unknown. NPgallery.nps.gov.

These concerns inspired Ehorn to proactively address the problem, accompanied by Chief Ranger Mack Shaver, Dr. Douglas, and an assortment of firearms. Ehorn had one of his staff at park headquarters prepare an environmental assessment under the recently passed National Environmental Policy Act complete with alternatives and a Finding of No Significant Impact (FONSI), even as he and his companions were tramping about the island with rifles in hand. As they dispatched the burros, Dr. Douglas aged and sexed them, took blood and tissue samples, and noted their weight, measurements, and general health. By noon, the three men had shot about half of the burros and settled down for lunch, when Ehorn received a call from his secretary at park headquarters warning him that the navy had learned what he was doing and wanted him to hold off until they could run it through the proper channels. Superintendent Ehorn instructed the secretary to reassure their navy contact (Wes Maylen at Point Mugu) that he would personally contact the admiral and take responsibility for his actions. After signing off, Ehorn decided to use this encouragement to finish the job as quickly as possible, and the three men proceeded to dispatch another dozen or so burros before concluding that they could return to the mainland. The 30 dead burros were left to decompose where they fell.

Superintendent Ehorn assumed that this was the end of the story, but two further developments occurred over the next few weeks to prove otherwise. First, a pilot making a routine overflight of the island observed at least one live burro still standing and informed Ehorn of this fact. Second, and far more disturbing, Ehorn got a call from the CDFG office in Santa Barbara, notifying him of a complaint they had received from a woman who had been fishing illegally on San Miguel Island and had come across the rotting carcasses of the burros. She was deeply disturbed. It required little effort to conclude the cause of this morbid discovery, and word quickly reached the press. Soon Ehorn was talking to an editor named Dick Smith from the

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432 Dr. Charles L. Douglas of University of Nevada, Las Vegas conducted an aerial survey of feral burros in December 13-14, 1976. He noted evident damage to caliche formations and to coreopsis forests: "Of 23 burros examined, all had grotesquely elongated hooves that hampered walking or running. The age structure of the herd also revealed that there were few old individuals, indicating a high rate of mortality." A report with recommendations was prepared February 10, 1977, and submitted to Superintendent Ehorn. CINP Archives, Cat. 13117, Box 8, Folder 6.

Santa Barbara News-Press who, according to Ehorn himself, "chewed me up one side and down the other." Smith was a well-known Santa Barbara conservationist and wilderness advocate. Attempting to mollify Smith, Ehorn invited him to come out to the island the following week to learn about the resource management issues the monument faced. The environmentally active editor readily agreed and promised to bring along representatives of local animal rights groups. In the interim, Ehorn arranged to fly back to San Miguel Island and shoot the remaining burro, which turned out to be a pregnant female.

This jenny proved to be the last surviving burro on the island, so Ehorn was finally successful in dispatching this issue, but he faced a much more daunting problem with the media. In preparation for his approaching press visit, he contacted A. Starker Leopold and Ralph Philbrick, members of the recently organized Management Advisory Committee, who expressed their support for his actions and promised to stand behind him during the anticipated lawsuits and media assault. A call to the NPS Western Regional Office in San Francisco elicited a more equivocal response, well short of any actual support. On the day of the planned press visit, Ehorn arrived early at park headquarters to prepare lunches for the trip to San Miguel Island. Dick Smith was supposed to arrive at 8:00 a.m. At 8:30, Ehorn received a call notifying him that, incredibly, the editor had died in bed the night before. The press visit was cancelled. Smith, it turned out, had been the leading instigator of the opposition to Ehorn's actions, and the story died with him. Ehorn was aware that this incident might have cost him his job, but the absence of any media follow-up allowed his superiors to dispense with disciplinary actions and bury the story. This was uncanny luck, but it also took a great deal of audacity on Ehorn's part to get to this point.[433]

Rabbits on Santa Barbara Island

Another incident that illustrates Bill Ehorn's characteristic attitude toward bureaucratic process, and his good luck, was the eradication of exotic rabbits on Santa Barbara Island. This is a story that began long before Ehorn arrived and continued for many years. The origin of the rabbits on Santa Barbara Island remains poorly documented. The Hyder family had introduced approximately 2,000 Belgian hares shortly after their arrival in 1916. Although these caused considerable damage over subsequent decades, they had largely been eradicated by park staff and domestic feral cat predation by 1941. During the war, US Navy personnel operating a Coastal Lookout Station on Santa Barbara Island introduced Red New Zealand rabbits to provide food in the event the island was cut off from communication with the mainland.[434] When the military left at the end of the war, the rabbits remained, albeit in small numbers. Lowell Sumner counted only a handful during an inventory in 1950. Just a few years later, however, Sumner returned to witness a dramatic explosion of this population and an equally dramatic degradation of native vegetation. Sumner explained his observations:

> *It is typical of such irruptions that they begin unobtrusively but after several years commence to snow-ball in their effects. The present one has now reached disastrous proportions. The rapidity with which such biological changes can take place on small*

433 Superintendent's Annual Report for 1978, Ibid., Folder 7; Bill Ehorn, "The Establishment of Channel Islands National Park," n.d., CINP Archives, Acc. 298, Cat. 6835, Folder 39; Bill Ehorn and Robert Lagomarsino oral history, January 16, 2003. Recording and transcript on file in CINP Archives, Cat. 35833; Bill Ehorn comments to Laura Kirn and Ann Huston, November 5, 2019.

434 Livingston, "Island Legacies," 865-68; Lowell Sumner to Superintendent, December 9, 1954, NASB, RG 79, CHIS, Central Coded Subject Files (1953-), Box 30.

> *islands where predators are largely absent illustrates the danger of allowing several years to elapse between biological inspections. Also illustrated is the manner in which the military, when unsupervised, can erase without a thought fifteen years of conservation efforts by our Service.*[435]

Sumner noted that the island was obviously in deep trouble. Rabbits of the New Zealand Red strain ran about in great numbers. The once-dense grove of the native giant coreopsis (*Leptosyne gigantea*) had a stricken aspect, with an impoverished understory that was everywhere crisscrossed by rabbit trails. The plants were being girdled and felled by the hungry, thirsty animals. The Hyders' old hay field looked as if it had been run over with a mowing machine. Bare ground showed through the carpet of denuded and dying vegetation. Park personnel claimed there were so many rabbits that the animals had no thickets to hide in and sat crouched on the bare ground. Sumner advised an immediate response but was forced to leave on an assignment to Alaska before he could implement a response.

Figure 4-3. Damage from rabbits was extensive on Santa Barbara Island, leaving it in the worst condition of the five islands.

Source: Photographer and date unknown. CINP Archives, Acc. 217, Cat. 3157.

435 Lowell Sumner to Jack von Bloeker, October 31, 1955, Ibid.

With Sumner's return in the fall of 1954, the rabbit removal program finally began. The CDFG provided transportation, while NPS personnel did the work. That October, Sumner and three others spent six full days hunting rabbits with shotguns and .22 rifles, making two or three drives across the same areas each day. Sumner recorded 400 kills and between 150 to 200 survivors. He took photographs to compare with ones he had taken in 1950, illustrating the decimation of the vegetation by rabbits. One photo showed the "Grizzly Giant" in its 1950 glory, the largest giant coreopsis known to the National Park Service, toppled by rabbits in 1954.

Each fall, the control program continued, with poison bait introduced as well. A controversy soon arose when newspapers reported that the Park Service was "bombing" the island with poison. Both Jack von Bloeker of the Los Angeles County Museum and Phil Orr of the Santa Barbara Museum of Natural History protested, complaining that this indiscriminate method endangered native animals on the island. The controversy was resolved when the Park Service explained that the bait was only delivered to the island by aerial drop but distributed by hand and could therefore be administered carefully and directly to the target species.[436]

In 1955, 2,500 rabbits were killed. The next year, about 600 were killed, and in 1957 the number was about 250. Rabbit foraging had caused the exotic ice plant (*Mesembryanthemum crystalinum*) to spread, and by 1958 this species covered over half the island. Since the rabbits could not penetrate the iceplant, they were forced out into the open. Sumner reported that the fall eradication season, begun in September of 1958, was so successful that only ten of the 6,000 rabbits estimated in 1953 remained. The last of the feral cats had also been eliminated.

This initial success was not followed up, however. Over subsequent years, the Park Service presence on Santa Barbara Island was too sporadic to ensure consistent resource management, and the exotic rabbit population gradually recovered, while natural resources suffered commensurately. This was a matter of great concern to the Santa Barbara Botanic Garden because of the loss of native species like the giant coreopsis. Ralph Philbrick, the director of the garden, began complaining to Bill Ehorn soon after the new superintendent arrived at the monument. Ehorn had the resident island ranger equipped with a firearm and assigned him rabbit hunting as a collateral duty. Even explosives and poison gas were attempted, but all of these measures were inadequate to do anything more than manage the problem; they were never enough to actually eliminate the rabbits.[437] It was several years before Ehorn could find a successful solution. This happened in 1980, after Ehorn convinced an old friend of his, biologist Gary Davis, to come to Channel Islands from the Everglades. Ehorn and Davis already knew one another from years earlier when they had both been rangers at Lassen Volcanic National Park during the mid-1960s. Davis was hired by the Western Regional Office as a "research scientist" assigned to the Cooperative Park Studies Unit at the University of California. He was to serve the needs of parks throughout the region. He was duty-stationed at Channel Islands National Park and supervised by the regional chief scientist in San Francisco. One of his first tasks was to plan the eradication of the Santa Barbara rabbits.

Since no one method had ever proven entirely successful, Davis began by setting up an experiment to test a variety of different methods. He divided Santa Barbara Island into a grid so

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436 Jack C. von Bloeker to Dr. Lowell Sumner, October 19, 1955; Lowell Sumner to Jack von Bloeker, October 31, 1955; Phil C. Orr to Dorr Yeager, September 5, 1957; Dorr G. Yeager to Phil C. Orr, September 9, 1957, all in Ibid.; Livingston, "Island Legacies," 865-868.

437 Superintendent's Annual Reports, 1975-1980, CINP Archives, Cat. 13117, Box 1, Folders 6 and 7.

that a different technique could be tried in each section and compared. The rabbit population was assessed by measuring the quantity of scat. After an initial period of trial and error, the most effective method proved to be spotlighting. Rangers, including Bill Ehorn, would walk the island at night with powerful, hand-held lights. The rabbits, which were generally more active at night, would be immobilized by the beam. Scores at a time could then be dispatched relatively easily with a single shotgun blast. After only a few weeks of this treatment, the rabbit population on Santa Barbara Island was nearly gone, and Ehorn was so elated that he resolved to devote as many staff resources as necessary to finishing off the remainder.

At about this time, Ehorn happened to run into Regional Director Howard Chapman at a training workshop and bragged to him about his recent success on Santa Barbara Island. Instead of being pleased, however, Chapman was mortified that Ehorn had gone ahead without conducting environmental compliance as required under NEPA. Chapman warned Ehorn to hold off until an environmental assessment could be prepared, and Ehorn assured Chapman that the remaining rabbits would not be exterminated until this was done. By this time, however, the only remaining rabbits on Santa Barbara Island were two that had been captured as pets and were being kept in a cage in the ranger station. Ehorn telephoned back to headquarters as soon as he could and told his staff to take good care of those rabbits. Meanwhile, Ranger Nick Whelan was instructed to prepare an environmental assessment with a Finding of No Significant Impact for Regional Director Chapman's signature as soon as possible. When Chapman eventually signed off on this dubious compliance, the two pet rabbits—affectionately named for Howard Chapman and NPS Director Russ Dickenson—were sent to a new home on the mainland, and Santa Barbara Island was finally free of rabbits for the first time in nearly 80 years. The native vegetation began showing signs of recovery almost immediately.[438]

The Natural Resources Management Plan (1967–1975)

Channel Islands' natural resource management program dates back to the late 1960s, when the monument was required, like all national park system units with significant natural resources, to prepare a natural resource management plan. This policy was instituted by Director George Hartzog in 1965 in response to the findings and recommendations of the influential Leopold Report two years earlier. Another report was prepared simultaneously by the National Academy of Sciences, which arrived at similar conclusions but proved less influential. Both committees were appointed by Secretary of the Interior Stewart Udall in response to pressure from scientists and resource managers, both within and outside the Park Service, who were concerned that the agency had neglected its responsibility for its natural resources during more than three decades of intense recreation-oriented development, especially Mission 66.[439]

The Leopold Report made two crucial points that it presented as objectives for future management. The first was the idea that parks represented vestiges of nature relatively undisturbed by human intervention. Where this still appeared to be the case, the report recommended that those primitive conditions be maintained. Where it was not, it recommended that these conditions be the objective toward which management aimed, even if

438 Ehorn public talk, January 16, 2003. Transcript in CINP Archives, Cat. 35833.

439 The immediate cause of Secretary Udall's investigation was a report by the chief of the Park Service's Branch of Natural History, Howard Stagner, in response to criticism over NPS wildlife policy in Yellowstone. Ethan Carr, *Mission 66: Modernism and the National Park Dilemma* (Amherst: University of Massachusetts Press, 2007), 307-308; Timothy Babalis, *Heart of the Gabilans: An Administrative History of Pinnacles National Monument* (San Francisco, CA: NPS, Pacific West Regional Office, 2009) 197-99.

restoration of primitive conditions represented only an illusion of human absence.[440] The other point the report emphasized was the need for sound research as a prerequisite to proper management. This was integral to the goal of maintaining or restoring primitive conditions, for it often required serious study to determine what those conditions were. The report observed that most research currently being done in the parks served interpretive rather than management purposes and urged that this emphasis be changed, presumably by replacing naturalists with professional scientists, as eventually happened.[441] Secretary Udall immediately endorsed the Leopold Report and instructed the National Park Service to "take such steps as are appropriate to incorporate the findings of the Leopold committee into the administration of the national park system."[442] This gave the Leopold Report the force of policy and required the National Park Service to adopt its recommendations.

Director Hartzog's memo provided detailed guidelines for implementation of the Leopold Report's recommendations. Parks were instructed to prepare a natural area resource management plan that would adapt the broad principles outlined in the Leopold Report to their specific situation and needs. At its core, each plan would include three essential elements: an inventory and description of existing biotic communities, natural processes, and land use practices; an inventory and description of biotic communities and natural processes under conditions when Europeans first arrived; and a plan for managing or restoring existing conditions to the original primitive state where it was possible and desirable to do so. Each of these elements required sophisticated knowledge of the relevant resources, especially the second element. Hence, the director's guidelines also proposed establishing an extensive research program to accompany each stage of the management plan.[443] So closely attuned was research to resource management, in fact, that no research project could be undertaken if it was not first identified in the park's resource management plan.[444] This informal but strict policy made preparation of a resource management plan critical, especially in parks such as Channel Islands where staff possessed inadequate knowledge of local resources and needed to conduct extensive primary research to establish baseline inventories before any management goals could be identified. At the same time, the policy reinforced a commitment to restoration that was already inherent in the Leopold Report by linking research to active management.

All parks were instructed to undertake work on their resource management plans "promptly." Channel Islands was hindered from responding immediately by its relative neglect at that time

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440 "As a primary goal, we would recommend that the biotic associations within each park be maintained, or where necessary recreated, as nearly as possible in the condition that prevailed when the area was first visited by the white man. A national park should represent a vignette of primitive America." A. Starker Leopold, "Wildlife Management in the National Parks," in James B. Trefethen, ed., *Transactions of the Twenty-Eighth North American Wildlife and Natural Resources Conference*, (Washington, DC: Wildlife Management Institute, 1963). Also in Lary Dilsaver, *America's National Park System: The Critical Documents*, 2nd Edition (Lanham, MD: Rowman and Littlefield Publishers, 2016) 210-24.

441 "Most of the research now conducted by the National Park Service is oriented largely to interpretive functions rather than to management. We urge the expansion of the research activity in the Service to prepare for future management and restoration programs." Leopold, "Wildlife Management in the National Parks."

442 Secretary Udall issued his memorandum endorsing the report on May 2, 1963. Dilsaver, *America's National Park System*, 224.

443 "Guidelines for Resources Management in the Areas in the Natural Category of the National Park System," in, "Memo," Assistant Director to All Field Offices, October 14, 1965, NPS, Washington, DC; Babalis, *Heart of the Gabilans*, 199, note 32.

444 Although this principle was assumed at the time, it was stated explicitly several years later by Deputy Director William Briggle, whose comments that "No new science/research projects may be undertaken unless identified as a need in an approved Resource Management Plan" and "Park research should facilitate refinement of the management programs" became known as "Briggle's Law." These statements originated at a regional directors meeting held at Harper's Ferry on May 26, 1976. Babalis, *Heart of the Gabilans*, 199, note 33.

under coordinated administration with Cabrillo National Monument as well as the lack of adequate baseline knowledge of its natural resources. These challenges began to be addressed by 1967 following the separation of the two monuments and assignment of permanent staff to Channel Islands. Rangers stationed on Santa Barbara and Anacapa Islands soon prepared rudimentary resource management plans. Valuable as they were, however, these early reports reflected the practical experience of generalist rangers rather than the professional analysis of trained scientists and were not based on any systematic inventory or study of the resources themselves.[445] Senior NPS officials acknowledged this deficiency and addressed it the following year. James K. Baker of the Park Service's Office of Natural Sciences initiated a basic data survey for a Natural Sciences Research Plan. Fieldwork would be conducted by scientists from local research institutions including the University of California, the Natural History Museum of Los Angeles County, and the Santa Barbara Botanic Garden.

The preliminary findings of this diverse team of scientists allowed the park staff to complete the monument's first comprehensive Natural Resource Management Plan, which was approved by the regional directorate in 1975.[446] The plan recommended eight research projects, seven management programs, and two hydrologic programs "which, when completed, should provide Channel Island personnel with a sound basis upon which to make decisions regarding the monument's resources."[447] Much of the management emphasis in this plan was devoted to the treatment of exotic terrestrial species, consistent with resource management practices that had been carried on since the monument was first staffed nearly a decade earlier. The scientists strongly recommended complete eradication of rabbits from Santa Barbara Island, reduction in the numbers of rats on Anacapa Island, and control of invasive exotic plants. The only plant specifically identified was ice plant on Santa Barbara Island, but the need for further study of other potentially noxious species was indicated. The plan also identified several research and management priorities for marine resources including the further study of marine mammals, inventory and evaluation of the intertidal zone to assess potential visitor impacts, and inventory and evaluation of commercial and sport fisheries, all to develop best management practices. Management guidelines also were needed for the recently designated Research Natural Area on West Anacapa Island to protect breeding California brown pelicans. Finally, the plan recommended that existing trail systems be improved for better visitor access.

The General Management Plan (1977–1980)

In July 1977, park staff began work on a general management plan for the monument. Although master plans had been required for each national park system unit as a matter of agency policy since the mid-1930s, the current effort was initiated in anticipation of congressional legislation that would make these plans a legal necessity.[448] The new general management plan required baseline data for both natural and cultural resources as well as information relevant to other aspects of monument operations. Although the research already conducted for the monument's

445 George Bowen (Santa Barbara Island ranger, Spring, 1966-April, 1969), "Channel Islands National Monument As I Remember," CINP Archives, Cat. 9948; NPS, "Channel Islands National Monument, Resource Management Plan: Anacapa Island," n.d., CINP Archives, Acc. 298, Cat. 6835, Folder 4.

446 Superintendent's Annual Research Reports for 1968-1975, CINP Archives, Cat. 13117, Box 8, Folders 6 and 7.

447 CINP, Superintendent's Annual Report for 1975 (March 11, 1976), Ibid., Box 1, Folder 7.

448 General Management Plans were stipulated under Section 203 of Public Law 95-625, the "National Parks and Recreation Act of 1978." The legislation also required parks to revise existing plans in a timely manner, which was understood to mean every 15 to 20 years.

Natural Resource Management Plan provided a good foundation, it was not sufficiently comprehensive to meet the requirements of a general management plan. For one thing, it did not include cultural resources. The National Park Service, therefore, issued a request for proposals to conduct baseline research for terrestrial, marine, archeological, and historical resources. The Santa Barbara Museum of Natural History was selected to carry out the majority of natural resource studies, though the National Park Service through its Denver Service Center hired marine biology graduate student Dana Seagars to compile data on marine mammals and birds. Dr. Lois Weinman (later Roberts) and Roberta Greenwood, both private consultants, were contracted to inventory the monument's cultural resources. Dr. Weinman prepared a Historic Resource Study, while Greenwood conducted archeological field investigations of the monument islands. The resource studies reached completion at about the same time the park legislation was passed. The planning team added language about the two new park islands, but lacking resource data about Santa Rosa and Santa Cruz Islands, the plans for these two islands were conceptual in nature and primarily addressed transportation.[449]

The new General Management Plan drew attention to the importance of resource management at the monument and the growing need for specialized expertise. One early response to this challenge was establishment of the job of resource management specialist. Park Ranger Nick Whelan was reassigned to this position in 1977 as a trainee. In order to prepare for his new responsibilities, Whelan was sent to the Western Regional Office in San Francisco for a 10-day orientation with Dr. Mietek Kolipinski and then to Great Smoky Mountains National Park for a natural resources management course.[450] This fell well short of developing an independent and professional resource management division, but it represented an important first step. As it turned out, the monument received a much stronger boost toward developing a science program before it fully developed its resource management program. Growth of the latter was largely in response to the heightened emphasis on scientific research after 1980, and was consequently oriented toward support of the science program. This order of development was not typical of the National Park Service, where research science usually was introduced as an addendum to existing resource management programs. While largely an accident of circumstances, the pattern that developed at Channel Islands made considerably more sense. Resource managers could better fulfill their practical responsibilities when they had clearly defined objectives and comprehensive baseline inventories from which to measure progress. This knowledge, in turn, derived from a foundation of basic scientific research.

Gary Davis and Long-Term Monitoring

Public Law 96-199 establishing Channel Islands National Park in 1980 gave powerful impetus to scientific research with its explicit mandate to inventory the new park's terrestrial and marine species to determine present conditions and probable future trends in species populations. This was expressed in section 203(a) of the legislation:

> *The Secretary [of the Interior] is directed to develop, in cooperation and consultation with the Secretary of Commerce, the State of California, and various knowledgeable Federal and private entities, a natural resources study report for the park, including, but not limited to, the following: (1) an inventory of all terrestrial and marine species, indicating their population dynamics, and probable trends as to future*

449 Nancy Fries Ehorn, comments to Laura Kirn and Ann Huston, November 5, 2019.

450 Superintendent's Annual Report for 1977 (March 23, 1978), CINP Archives, Cat. 13117, Box 1, Folder 7.

> *numbers and welfare; (2) recommendations as to what actions should be considered for adoption to better protect the natural resources of the park.*[451]

To determine the future trends of species population dynamics, it would be necessary to monitor these inventories over time and to accumulate long-term datasets that were capable of revealing individual changes too subtle to be clearly manifested in the short-term, or larger patterns that would only be recognizable after many years or even decades. Implementing a monitoring program to achieve these objectives was the intent of this section of the park bill. It had been proposed by marine biologist Gary Davis, who at that time was still employed as the chief scientist at Everglades National Park, but was a friend of Superintendent Bill Ehorn. Over the years, Ehorn and Davis had stayed in touch, and Ehorn had tried to hire Gary Davis as chief ranger at Channel Islands in 1977. Davis declined but told Bill to get back in touch with him if he ever needed a chief scientist. A year later, as Ehorn watched the Kelco Company harvester cutting swathes through the kelp forest off Santa Barbara Island, this need became glaringly apparent. He realized that the only way he could challenge such abuse was to demonstrate the negative ecological impact these activities were having on park resources, and the only way he could accomplish this was through the authority of legitimate scientific research. Ehorn recognized the need for a chief scientist on his staff and his thoughts soon returned to Gary Davis, but not until the park bill had already been set in motion.[452]

In the meantime, Gary Davis himself, through a mostly fortuitous chain of circumstances, had already become involved with the Channel Islands. In 1979, he was contacted by a man named Clay Peters, who at that time was employed as a congressional staff member and was busy drafting language for a bill to convert Biscayne National Monument to a national park. Since Biscayne was in southern Florida, not far from Everglades National Park where Gary Davis was then stationed, Peters naturally turned to Davis for advice. Peters had once been employed as a ranger in the National Park Service and had served with both Gary Davis and Bill Ehorn at Lassen Volcanic National Park during the 1960s. Coincidentally, Peters was working on a draft of the Channel Islands park bill at the same time and happened to mention this to Davis after they finished discussing the Biscayne legislation. Because both men were old friends of Bill Ehorn, the conversation was encouraged by their mutual personal interest, and soon they were discussing details about the proposed legislation and how it should be worded. As a result, Davis was able to introduce a section on natural resource inventory and recommendations to the park bill, with significant consequences, both for the park and his own career. He had come to appreciate the importance of long-term monitoring from his own experience at Fort Jefferson National Monument (now Dry Tortugas National Park) and suggested that this be incorporated into the bill as a legislative mandate.[453] Monitoring, however, was not a popular concept at the time because it was considered too open-ended, and Peters must have warned Davis that it would not be accepted by the congressional committee members. No politician would agree to fund a proposal that appeared to offer no measurable returns within the lifespan of their political tenure. Davis compromised by avoiding the term "monitoring" and agreed to set definite limits to the proposed program. The result of this compromise was the 10-year population dynamics study

451 CINP, Central Files, Santa Rosa Island (hereafter SRI) Binder No. 1, Section B.1.a

452 Unless otherwise noted, the following is from Gary Davis, interviewed by David Louter, June 11-12 and August 28, 2007. Transcript on file in CINP Archives, Cat. 30177; Gary Davis telephone interviewed by Lary Dilsaver, June 7, 2018.

453 In the 1970s, the superintendent of Everglades also managed Fort Jefferson National Monument (now Dry Tortugas National Park), Biscayne National Monument (now National Park), and Big Cypress National Preserve. Gary Davis had experience with all four units. Gary Davis interview with Lary Dilsaver, September 3, 2018.

described in section 203(a) of the final park bill. Davis hoped that once this short-term monitoring program was set in place it would show practical results to justify its continuation and could then become the long-term monitoring program he envisioned.

Gary Davis had learned the value of long-term datasets and ecosystem management from his experience in southern Florida between 1971 and 1980. His chief influence here was Dr. William B. Robertson (affectionately known as Dr. Bill), who had been employed as chief biologist for Everglades National Park since the early 1950s. Bill Robertson is probably best remembered in the Park Service for his role in pioneering prescribed fire as a tool for ecological restoration and management.[454] Under his guidance, the Park Service initiated its first prescription fire program beginning in 1958 in Florida's saw grass prairies and pine forests. By the time Gary Davis arrived at Fort Jefferson National Monument nearly 14 years later, Everglades had implemented more than 100 prescribed burns covering approximately 28,000 acres. Over the remainder of the 1970s, the program increased four-fold. These experiments had profound practical implications for the NPS wildland fire program, but their chief significance was the shift in focus they reflected from managing for individual species to managing for entire ecosystems. By introducing fire to the saw grass prairie and pine forests of southern Florida, Bill Robertson was attempting to restore or replicate a natural process that he had determined to be integral to sustaining a broad assemblage of native floral and faunal species. He realized that resource managers needed to preserve the entire set of relationships existing between individual species, their habitats, and the complex array of natural processes that characterized these habitats, if the managers were to succeed in preserving the species themselves. Since fire was one of the fundamental natural processes that characterized the habitat of large regions of southern Florida, its reintroduction, following decades of suppression efforts, was essential to restoring conditions that could sustain the species that had originally inhabited these regions. Robertson's "ecosystem management" approach had a lasting effect on Gary Davis, impressing on him the importance of prioritizing habitats and the interrelationships between species over the individual species themselves.

Bill Robertson also discovered that long-term monitoring was essential to successful ecosystem management. This lesson was impressed on Gary Davis by an example he still recalled years later. Dr. Robertson's primary expertise was in ornithology and one of his most significant contributions to science, despite his better-remembered role in fire ecology, was the monitoring of pelagic birds such as the sooty tern (*Onychoprion fuscatus*). He had begun studying the birds of southern Florida in 1950 for his PhD dissertation. Research on the habits and population dynamics of this species had been carried on since the 1930s, when experiments with banding and monitoring their seasonal movements first began. Robertson had been able to continue this research with little interruption after his arrival at Everglades in the early 1950s and increased the number of banded birds available for monitoring by a substantial number.[455] Gary Davis remembers that Robertson and his research assistants would band between 30,000–40,000 terns each year. By the end of Robertson's career, it was estimated that he had banded as many as 500,000. Far more important than the number of birds banded, however, was the longevity of the dataset accumulated. By the time Davis left Florida, the sooty tern had been carefully and

454 See Richard West Sellars, *Preserving Nature in the National Parks: A History*, (New Haven, CT: Yale University Press, 1997) 162-63; Bruce M. Kilgore, "Fire Management in Parks and Protected Areas: Introduction and Summary," *George Wright Forum*, 22, (4) 2005, 8-11.

455 Robert L. Norton, "B. Robertson Jr., August 22, 1924 - January 28, 2000," *North American Birds* 54 (1) 2000, 111-112.

comprehensively monitored for a full half century. This long-term monitoring had revealed many interesting facts about the life habits of the bird, but it also resulted in some unanticipated contributions to practical resource management.

Sooty terns have long lifespans, averaging about 30 years. They are also unusually well-adapted to pelagic conditions, spending most of their life flying over the open ocean where they hunt a variety of small fish that they snatch from the surface of the water. Among their favorite prey are juvenile blue fin tuna. This species is highly valued among both commercial and sport fishermen and was harvested in great numbers during the same decades that Robertson and his predecessors were collecting monitoring data on the sooty tern. Many years before any decline was noticed in the tuna fishery, the tern data showed a significant change in the birds' diet, with its favorite food, the juvenile tuna, all but disappearing. Since tuna are also a long-lived species, it was another 20 or 25 years before the fishery began to notice any decline in mature individuals, but the origins of this decline had long-since been presaged in the disappearance of juvenile fish as demonstrated by the change in the terns' diet. These juvenile fish had been overharvested by the commercial fishery to such an extent that not enough survived to replace earlier generations because these died through natural circumstances or were captured by sport fishermen who preferentially targeted large adults. By the time the effects of overharvesting were noticed, it was far too late to make any meaningful adjustment to fishery practice, thus, the entire population began to collapse. Davis realized, however, that this could have been anticipated and possibly avoided if the sooty tern data had been used as an early warning sign of the tuna fishery's impending failure. The key lesson for Davis was the value of having long-term datasets to perceive or predict changes where a populations may not exhibit an immediate, measurable response to an incremental but cumulative adverse effect.

Gary Davis had already laid the foundation for a long-term monitoring program at Channel Islands with his recommendations to Clay Peters when Bill Ehorn invited him to become chief scientist at the new park in the spring of 1980, technically through the Cooperative Park Studies Unit at the University of California, Davis. Fortuitously, funding for this position had just become available with the retirement of the research scientist at Hawaii Volcanoes National Park, also in the Western Region, and the position was simply transferred to Channel Islands. When Davis entered on duty, he arrived fully committed to implementing the principles of ecosystem management and long-term monitoring that he had learned from Bill Robertson in southern Florida. He made this clear in a presentation before the annual convocation of the Western Region's research scientists and their regional supervisors at Redwood National Park later that year. As Davis remembers it, the other scientists on the committee were less than enthusiastic about his proposal, believing that monitoring of the sort he described was not true research. Nevertheless, he was strongly supported by Bill Ehorn, who had become convinced of the need for reliable data on population dynamics as a result of his failure to prevent the commercial exploitation of marine resources around the islands after the transfer of jurisdictional authority to the state in 1978. Ehorn and Davis reached an early understanding about how they would cooperate to achieve the program that the latter envisioned for the Channel Islands. Davis would be responsible for designing a research program, would get the monitoring protocols written and published, and would make recommendations for their practical utilization. Ehorn would get the money and staff to implement a management program once the research designs had been completed.

As noted, section 203(a) appeared in the earliest version of the park bill introduced by Representative Robert Lagomarsino in the spring of 1979 and remained unchanged and

unquestioned throughout the remaining legislative process.[456] Representative Lagomarsino and other political supporters of the bill were willing to accept Davis's proposed research and monitoring program—contrary to Clay Peters' expectations—because they were acutely aware of the park's vulnerability in the heavily used maritime corridor of the Santa Barbara Channel with its large and rapidly growing urban population on the mainland coast. The reality of the threats confronting the new park had already been demonstrated by several processes and events including the historic hunting of marine mammals; the historic and continuing pressure on marine resources from the fishing industry; the oil spill from the blowout on Platform A in 1969 and the continuing threat of further spills from additional Outer Continental Shelf oil leases and oil tanker traffic (another spill occurred in 1990); and the industrial pollutants such as the organochlorines DDT and PCBs released into the coastal waters up until 1972 that contaminated the marine food chain. New threats were also anticipated with a space shuttle program at Vandenberg Air Force Base, projected to begin in 1986, and with increased visitation to the park itself. Past research had shown the importance of scientific monitoring to determine whether such threats were having a negative impact. The most successful example of this was the long-term monitoring of marine mammals that had been underway since Paul Bonnot began his periodic censuses in the late 1920s. But the lack of comprehensive baseline data on the majority of island species made it impossible to measure the responses of other sensitive resources to human activities. Also lacking was good information about Santa Rosa and Santa Cruz Islands which had just been included in the park.

Other concerns also may have helped support this legislative mandate. For example, many interested parties were concerned that establishment of the park would bring crowds of visitors, who would destroy the islands' solitary environment and damage resources that had otherwise been protected by the limited access afforded under private ownership. The legal requirement that the park be administered on a low-intensity, limited-entry basis could not be done effectively without an accurate assessment of the park's natural resources and their vulnerability to the impacts of human visitation.[457] Whether increased visitation was a concern shared by the landowners other than Carey Stanton was unclear, but all of the private landowners at that time were critical of the Park Service because of its poor record managing the national monument, and their skepticism demanded that a higher standard be observed in the management of the new national park.

Implementing the Inventory and Monitoring Program

One of Gary Davis's first challenges at Channel Islands was to identify what natural resources the park actually had. Since a great deal of scientific study had been done on the Channel Islands over the years by various individuals and institutions, much of this knowledge already existed in manuscript or published documentation, but these records needed to be reviewed and the information compiled in a single source that would be easily accessible to park researchers. Any gaps in the body of knowledge could then be identified and filled through additional fieldwork. The literature review initiated in 1979, produced an annotated bibliography containing more than 4,000 entries by 1981. This review was stored on computer diskettes at the Santa Barbara Museum of Natural History. A database application developed by a private contractor to

456 H.R. 2975, "To establish Channel Islands National Park," March 26, 1979. For text of original bill see CINP, Central Files, SRI Binder No. 1, Section B.1.b.

457 This concern was also expressed by Rep. Keith Sebelius during House concurrence hearings on final revision, *Congressional Record*, House, 3344; Also see CINP, Central Files, SRI Binder No. 1, Section B.3.c.

manage the information was updated regularly. Based on this review, the park was able to compile a comprehensive list of species and species assemblages with enough contextual information to begin prioritizing their relative significance for monitoring purposes. Two significant gaps were immediately identified. Very little, it was discovered, was known about terrestrial invertebrates (primarily insects) or about reptiles and amphibians on the islands, so field surveys had to be implemented to determine the presence and distribution of these species.

Once this initial inventory of species was complete, the research team moved on to its next task, which was to develop a protocol for monitoring individual population dynamics. This protocol was necessary to make meaningful assessments of a species' health, or the health of the natural ecosystem in which it occurs, in addition to just noting whether they are present or not. As Davis later explained in his first biennial report to Congress:

> *To begin to understand how and why populations of plants and animals fluctuate, and what factors influence their survival or demise, we must monitor not only their presence or absence, but also their abundance, distribution, population age structure, reproduction, recruitment, growth rate, mortality rate, population sex composition and phenology. Collectively, this information is known as population dynamics.*[458]

This posed substantial practical challenges. Section 203(a) boldly instructed the park to inventory and monitor *all* terrestrial and marine species. But as Davis pointed out, the park at that time was known to possess "nearly 1,000 macroscopic species of marine plants and animals, at least 69 species of breeding birds, over 100 endemic terrestrial plants, and hundreds of other terrestrial plants and animals."[459] It would be absurdly difficult to consider all of these species, and impossible to do so within two years when the first biennial report to Congress was due. Therefore, Davis proposed selecting a smaller, more manageable number of representative species grouped within several broad categories.

Criteria for the selection of these species took into account a variety of ecological, social, economic, legal, and political factors. Species with special legal status, such as those officially listed as endangered or threatened or those specifically protected such as marine mammals, had to be included as a matter of law and policy. Other priorities included species that were endemic to the park, harvested species, species that were major elements or indicators of critical habitat for endangered species, exotic or feral species, species that were dominant or characteristic components of major park ecosystems, and other highly visible or charismatic species. Eventually, nearly 500 species were selected for long-term monitoring. Davis also added a few categories representing background conditions or patterns of activity because of their close relationship to the population dynamics of significant individual species. These included human patterns of impact through park visitation, the fishery harvest, and environmental factors such as weather and water quality. He also recognized the need to inventory and monitor the park's cultural resources, especially its prehistoric archeology, which was especially vulnerable to modern threats. However, since cultural resources were not mentioned in the legislative mandate of section 203(a), they were never included in the biennial reports to Congress and received far less attention than the park's natural resources.

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458 US Department of the Interior, Channel Islands National Park: Biennial Natural Resources Study Report, October 1982 (Ventura, CA: NPS, 1982) 10, CINP Archives, Cat. 13117, Box 9.

459 Ibid.

By 1982, when the first biennial report was submitted, Davis and his colleagues had identified 15 categories of species or environmental conditions to monitor. Each category represented a distinct research project or task. A 16th category, development of the data management system, had already been implemented. These projects were ranked numerically according to their priority. Pinnipeds were at the top of the list. This demonstrated either the relative importance of marine mammals to the park, or the fact that a well-established pinniped monitoring program already existed at Point Bennett, or both. All 16 projects, as well as the component or intermediate tasks needed to implement them, were diagrammed on a hierarchical "step-down plan" that showed the order in which the program would proceed.[460]

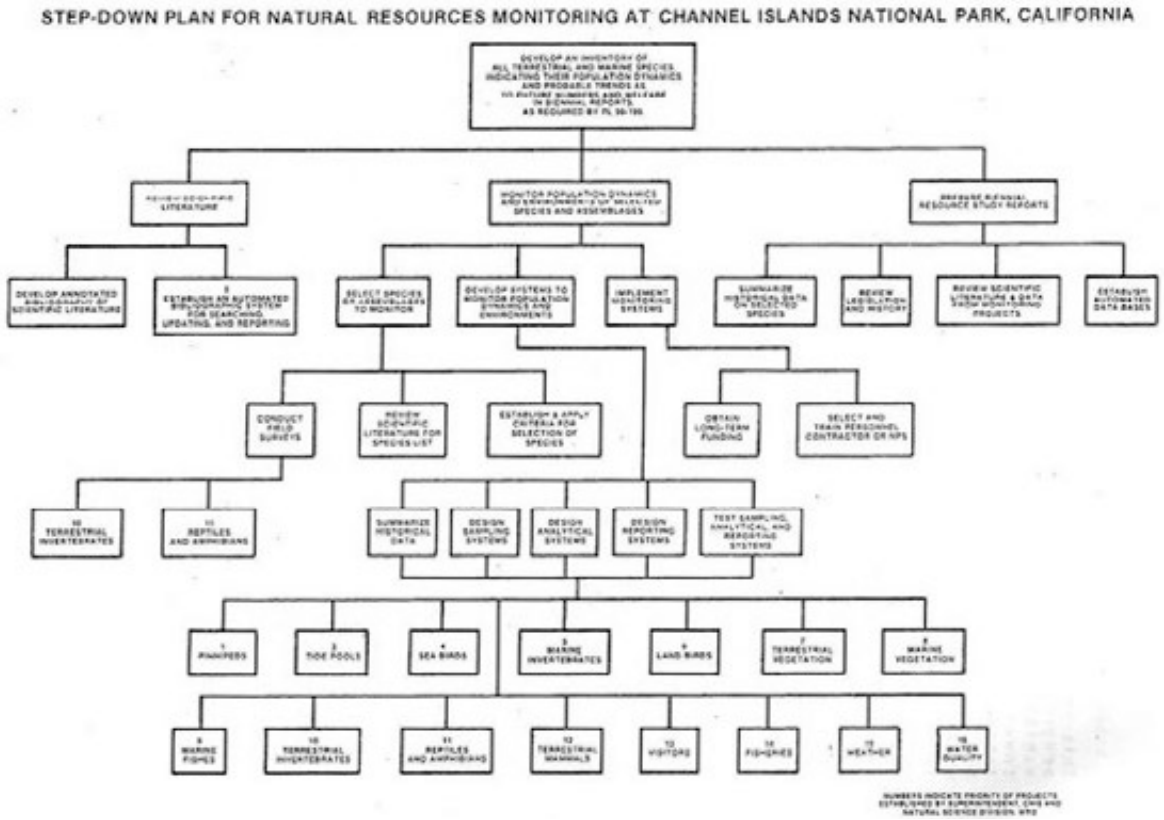

Figure 4-4a. Inventory and Monitoring step-down diagram for Channel Islands National Park.
Source: Gary Davis.

460 Gary Davis interviewed by David Louter, August 28, 2007. Transcript in CINP Archives, Cat. 30177.

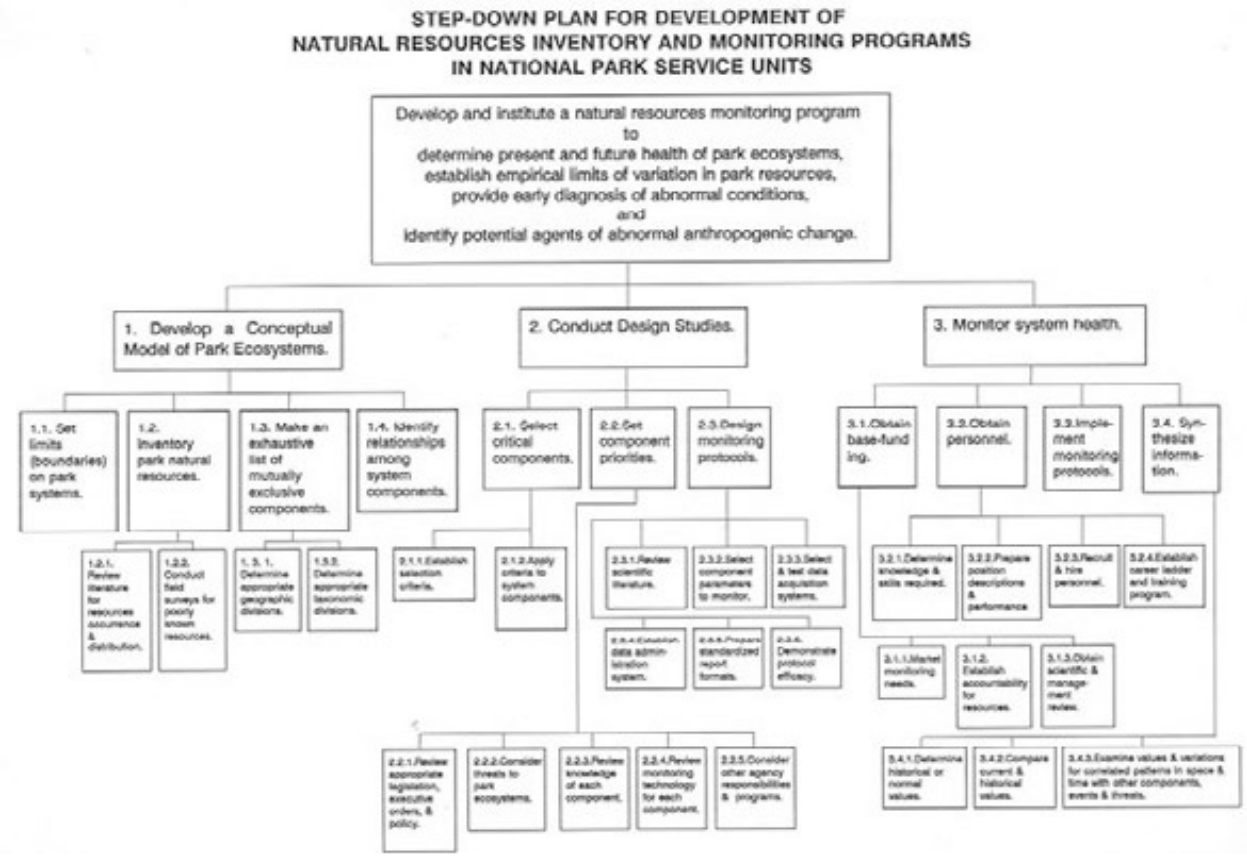

Figure 4-4b. Inventory and Monitoring step-down diagram for the national park system. Both provided by Gary Davis.

Source: Gary Davis.

Each of the 15 monitoring projects was broken down into five distinct tasks: (1) review and summarize existing information on population dynamics, (2) design sampling techniques using historical precedents whenever appropriate, (3) design a system for routine analysis of the resulting data, (4) design a system for routinely archiving and reporting the results of the data analysis, and (5) field test the sampling techniques and demonstrate the analytical and reporting systems using actual data. One of the major accomplishments of the initial research program was to systematize these tasks for all of the project categories. The result of this effort was a series of handbooks, or protocols, that provided detailed monitoring protocols for each assemblage of species or environmental condition being studied. These protocols could then be used by resource managers to continue long-term monitoring when the program passed from a purely research and design phase to its implementation. Although resource management officials would play an increasingly greater role in the monitoring program, the science division would still be responsible for directing it and for conducting primary research. Gary Davis, therefore, remained just as busy as ever. In 1983 the NPS Regional Office hired Dr. William Halvorson through the University of California, Davis Cooperative Education Studies Unit, to oversee

design of monitoring protocols and to conduct research. Halvorson was duty-stationed at Channel Islands along with Gary Davis.[461]

As early as 1984, Davis had begun to compare the Channel Islands' inventory and monitoring program to a Health Maintenance Organization in which doctors provide regular check-ups on members to assess their physical condition according to pre-defined indicators, or vital signs, of health and fitness. Whereas a doctor might monitor such vital signs as blood pressure, cholesterol level, and nerve reflex, scientists and resource managers at Channel Islands monitored population dynamics of the nearly 500 species identified in their protocols as well as a few broader conditions such as weather, visitation, and fishery pressure. The long-term monitoring of these natural indicators allowed managers to assess the health of the entire ecosystem over time in order to detect negative trends early and possibly treat them before they became too advanced.[462] In describing the vital signs program they had initiated at Channel Islands, Halvorson and Davis frequently observed that it gave park managers the ability to make decisions based on reliable knowledge of the actual resources, rather than on belief-based consensus grounded in ignorance.[463]

By 1988, the developmental stage of Channel Islands' I&M program was largely complete. Inventories had been made of all known species in each of the monitoring categories defined by the program. Ten protocol handbooks were compiled, establishing detailed guides for monitoring the selected vital sign indicators in these categories. Four of the original 15 categories from the step-down plan were combined into a single kelp forest handbook, authored by Gary Davis, while the herpetofauna and mammal components were combined into a single protocol. Eventually, protocols were written for terrestrial invertebrates (insects) and sandy beaches.[464] What remained was implementation of the long-term monitoring itself, which would be undertaken on a regular basis and continued indefinitely. Although some programs would be managed outside the National Park Service, such as the National Marine Fisheries Service monitoring of pinnipeds at Point Bennett, most of the monitoring protocols were designed to be accomplished by the park resource management staff. This required a substantial increase in staff numbers and the base funding for salaries.

Gary Davis and Bill Halvorson estimated in 1987 that the annual operating costs for the monitoring program as designed would be $822,000. By that time, the total cost of the research design phase had come to $1,764,000.[465] However, park requests for base funds to implement the designed monitoring protocols were not competitive in the NPS budget system. If the program was to succeed, Davis realized he would have to find support from outside Channel

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461 CINP, Superintendent's Annual Report for 1983 (February 29, 1984), CINP Archives, Cat. 13117, Box 1, Folder 5.

462 CINP, Superintendent's Annual Report for 1984 (March 14, 1985), Ibid. Davis did not begin using the expression "vital signs" until a few years later, but the analogy was already established.

463 For example, Gary E. Davis and William L. Halvorson, "Resource Issues Addressed by Case Studies of Sustained Research in National Parks," in William L. Halvorson and Gary E. Davis, eds. *Science and Ecosystem Management in the National Parks* (Tucson: University of Arizona Press, 1996).

464 The resource categories represented by the 10 monitoring handbooks completed in 1988 were: pinnipeds, intertidal communities, seabirds, kelp forests, land birds, terrestrial vegetation, terrestrial vertebrates, visitors, weather, and fisheries.

465 Gary E. Davis and William L. Halvorson, Channel Islands National Park Natural Resources Monitoring Program: 1990 Status Report (Davis, CA: University of California, Cooperative Parks Study Unit, 1990) 12.

Islands, and he began visiting other parks and regional offices around the country to propose a servicewide inventory and monitoring program.[466]

Research and Natural Resource Management

The first general management plan for Channel Islands was completed in September 1980. Inclusion of Santa Cruz and Santa Rosa Islands in the new park boundary meant it was already outdated. Recognizing this, the park act had stipulated that a revised GMP be completed by October 1, 1983. With the anticipated addition of East Santa Cruz Island and Santa Rosa Island at some point in the future, resource documentation would also be needed for a land protection plan (LPP). Both documents required additional inventory and analysis of resources, most of which needed to come from the science program that Gary Davis was developing. Assisting with that program and with preparation of park planning documents were the highest priorities for the resource management program over the next few years.[467] In 1982, the park staff completed a new resource management plan (RMP) in anticipation of the revised, or supplemental GMP, providing information on the two recently added islands. Although these activities occupied much of the program's time and energy, ongoing efforts to control exotic species on the islands also continued. Resource management at this time was still primarily a collateral duty of the island rangers rather than being an independent division with its own staff. The sole exception was Ranger Nick Whelan, reassigned a few years earlier to become the first resource management and compliance specialist at the park.[468]

In late 1982, San Miguel Island Ranger Reed McCluskey replaced Whelan as resource management specialist. In order to allow McCluskey as much time as possible in the field, his compliance duties were delegated to a management assistant. This was necessary because McCluskey required time to conduct research and monitoring activities in support of the science program and, even more urgently, to gather baseline data on the privately owned islands for the GMP revision. Though the landowners initially did not permit access, this began to change in late 1982 when Vail & Vickers allowed park officials to visit Santa Rosa Island. In response to this unexpected opportunity, the park organized a research trip from December 8 to 15 of that year, soon followed by another from April 4 to 6, 1983. The purpose of the surveys was to assess natural and cultural resource conditions and the potential for restoration to help establish values for acquisition and development of the GMP. Park staffers had to obtain as much information as possible about island resources during these two brief visits. All park employees who could be spared provided logistical and administrative support. A scientific team supported by the NPS Western Regional Office carried out much of the research with local transportation funded by the Denver Service Center as part of the planning efforts for the GMP and the LPP. Commercial contract helicopters and fixed-wing planes transported researchers from one transect to the next, making it possible to cover large areas of terrain relatively quickly.

In August 1983, Frank Ugolini transferred to Channel Islands to become the park's first official chief of resources, and Reed McCluskey returned to his original duty as the San Miguel Island ranger. The establishment of Ugolini's position was the first formal creation of an independent resource management division at the park. Shortly after arriving at the park, Ugolini initiated a

466 Gary Davis interviewed by Lary Dilsaver, September 3, 2018.

467 CINP, "Resource Management Plan" May 1982; Superintendent's Annual Report for 1981 (May 19, 1982). CINP Archives, Cat. 13117, Box 1, Folder 6.

468 Superintendent's Annual Report for 1980, Ibid.

complete revision of the existing 1982 Natural Resource Management Plan. One of his early objectives was black rat management on Anacapa Island. The new plan included a revision of the project statement for eradication of the rodents.[469] He completed the final draft in January, 1984. It went to the Western Regional Office for review and was finalized the following year.[470] Other priorities included establishment of monitoring programs for the fragile caliche forest on San Miguel Island in anticipation of the space shuttle program proposed to begin in 1986 and at tidepools to measure visitor impact. This was in accordance with protocols established under RM-23, as the monitoring program was coded in the new RMP.[471]

By this time, many of the baseline inventories and monitoring handbooks that had been proposed with the inception of the park science program in 1980 were finished, and the program was entering its second phase with implementation of long-term monitoring by resource management staff. The successful progress that had been achieved within the first five years of the program was summarized by Superintendent Ehorn in his annual report for 1985:

> *Projects designing monitoring techniques for pinnipeds, sea birds, intertidal communities, boating use, weather, and ocean conditions were completed and monitoring by park resource managers has begun. Design studies for data management, marine invertebrates, land birds, terrestrial vegetation, marine vegetation, and marine fishes are well underway and coordination with resource managers for implementation has begun. Design studies for terrestrial invertebrates, reptiles and amphibians, terrestrial mammals, and fisheries are underway. When the design studies are completed and implemented by resource management, the task of integrating the monitoring effort into a comprehensive program will become the major thrust of the research program.*[472]

As this description makes clear, the responsibilities of the research program and the park resource management division were to be fully integrated and work in tandem, which seemed to be an appropriate use of the respective skills of research scientists for baseline inventories and resource managers for long-term monitoring.

Pooling all of the funding in the vital signs monitoring funding in the park's base budget initially seemed an effective way to protect the program. Later, Gary Davis explained what happened:

> *I had a very strong background and a belief in the value of having these programs park-based as opposed to having them in regional offices or in the Washington office. The Washington office people, Abby Miller in particular, were very leery of putting money in park bases, because she said, "It's going to evaporate, it'll disappear into another division and other kinds of work, and it's really hard for us to make sure it stays focused on monitoring." So we said, "Well, let's test it." So, we put the money in park bases, and, sure enough, at Channel Islands it disappeared into other places, and that's why we have the Vital Signs program organized as it is today, to protect*

469 Kate Faulkner Kate Faulkner later noted that his efforts focused on removing rats only from areas where humans could place poison bait boxes. Rats on the cliffs in the bird nesting areas were unaffected (or less affected) by the warfarin in bait boxes and therefore these rats continued to predate seabird eggs. Kate Faulkner interviewed by Timothy Babalis, August 5, 2009.

470 Superintendent's Annual Report for 1983 (February 29, 1984), CINP Archives, Cat. 13117, Box 1, Folder 5.

471 CINP "Resource Management Plan."

472 Superintendent's Annual Report for 1985 (March 11, 1986), CINP Archives, Cat. 13117, Box 1, Folder 5.

> *the integrity of the funding source. So, it's given to a board of directors composed of the superintendents, so they still have a great deal of say about how that money is spent, but there is centralized control, so that if the money starts to wander off, it can be brought back to bear on the central issue for monitoring.*[473]

In 1987, Davis and Halvorson had estimated that the monitoring program would cost roughly $822,000. Frustration was evident in the following year's annual report for natural resources:

> *Unfortunately the overall natural resource program suffers deficiencies. Terrestrial vegetation monitoring has not commenced, despite the completion of the design study, because of lack of funds. Reports from seabird monitoring efforts are languishing, in part because funds only support less than full time employment in this position. Raw data collected from weather stations and sea temperature monitors remain unanalyzed because of the lack of manpower and time to perfect computer programs to accomplish this task. Underwater cameras and other important gear remain inoperative because there is no money to replace or repair them.*[474]

The park received base funding increases for inventory monitoring in fiscal years 1992 and 1993, but due to inflation and other issues it was only "two-thirds, three-quarters of what was required to actually run the program as it was designed."[475] The funding shortfall encouraged Gary Davis to seek greater authority and funding for the vital signs program on a national level. In turn, this would have a profound impact on the growth and relative status of the natural resource management program at Channel Islands.

In December 1987, an incident occurred that tested the relationship between Ehorn and the US Navy. One of the targeted ships the navy used for bombing practice, the USS *Tortuga*, ran aground on San Miguel Island. It created a visual blight as well as a danger to pinnipeds and other marine species. Davis and other members of the park resources staff requested that Superintendent Ehorn point out to the local navy commander that the wreck was his responsibility and he needed to remove it. The navy balked at doing so citing an expense of more than $2,500,000. Not long after that, Davis and members of the marine sanctuary staff visited the site in time to see a bull sea lion impale itself on an exposed steel beam. Channel Islands National Marine Sanctuary manager Francesca Cava doggedly pursued the issue up through the navy chain of command until the navy finally removed the wreck. The possibility that the wrecked ship could be a safety hazard for divers and even contain unexploded ordnance mandated action regardless of cost.[476]

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473 Gary Davis interviewed by David Louter, August 28, 2007. CINP Archives, Cat. 30177.

474 Superintendent's Annual Report for 1988 (January 12, 1989), CINP Archives, Cat. 13117, Box 1, Folder 8.

475 Gary Davis, interviewed by David Louter, June 12, 2007; Gary Davis email to Lary Dilsaver, May 31, 2019.

476 Gary Davis telephone interview with Lary Dilsaver, June 21, 2018. Tim Setnicka interview with Ann Huston, June 2019; recording and transcript in CINP Archives.

CULTURAL RESOURCE MANAGEMENT

Despite the emphasis that was placed on natural resources, both as a direct result of park legislation and of the growing interest in natural resource management and science in the Park Service itself, Channel Islands also saw increased attention to cultural resource management during this period.[477] The Channel Islands possess many significant cultural resources. Possibly the most extensive and important of these are the archeological deposits associated with precontact American Indians—the Island Chumash and their predecessors—who maintained virtually continuous occupation on the islands for at least 13,000 years. Historical archeology includes remains of the ranching, sea mammal hunting, fishing, and recreational history, as well as shipwrecks associated with maritime activity dating from at least the mid-19th century and possibly as early as the 17th. Aids to navigation represent another category of significant resources associated with maritime history. The islands also possess many historic properties associated with ranching and fishing. Finally, military resources associated with World War II and the Cold War, especially the development of missile technology, represent another important but less extensive category of historic properties on the islands.

Archeological Resources

The Northern Channel Islands are internationally significant for the archeological resources embedded in the landscapes. In part, this is due to the sophistication of Chumash society and the unusual density of island Chumash populations. This resulted in large concentrations of archeological deposits, many of which were conspicuous to even casual investigators. Local physical conditions including a semiarid climate, basic soils, the absence of burrowing animals that can disturb site stratigraphy, and the lack of any substantial modern development in marked contrast to the Southern California mainland have ensured relatively good preservation of these cultural materials. The islands have assumed even greater significance in recent decades as new technologies and better research methods have provided information about the antiquity of island occupation and the evolution of island cultures over time. Not only do the Northern Channel Islands possess one of the largest concentrations of late Pleistocene archeological sites in North America, they also possess a relatively good distribution of sites from all major periods of the Holocene up to the beginning of the historic period. This has greatly facilitated understanding cultural evolution in precontact Chumash societies as well as the development of new technologies, especially those adapted to exploitation of marine resources such as fishing implements and ocean-going vessels. Detailed records of changing climatic conditions over the last 12,000 years, derived from data on sea-surface temperature fluctuations, also provide an opportunity to study human adaptations to environmental change when correlated with the islands' archeological record. These unique

477 On the agency level, this growing interest in natural resources during the 1980s was in great part a response to the perceived inadequacy of the Park Service's existing management of them. It was not until the end of the following decade that these inadequacies would be formally addressed through a major funding initiative, the "Natural Resource Challenge." Richard Sellars, *Preserving Nature in the National Parks*; Channel Islands was, in this respect, well ahead of the agency curve and would serve as an important precedent for later improvements in science and natural resource management throughout the National Park Service.

opportunities for research make the park's precontact archeological resources "among the most valuable in North America, if not the world."[478]

Archeological and Ethnographic Research

Interest in Chumash archeology first emerged during the 19th century with relic hunters. The principal motivation driving most of them was simply the desire to collect artifacts, either for sale, for museums, or for their own personal collections. Most of these early investigators were untrained amateurs and often caused more harm than good, destroying evidence rather than uncovering useful information. Among the first documented collectors were members of the US Coast Survey, who arrived in 1852, and again, during the early 1870s after a hiatus in operations caused by the Civil War. Survey member H. G. Harford recorded making collections from 1872 to 1873, while William H. Dall wrote of collecting over the next year. Undocumented collecting also occurred with early Anglo settlers, since most of the islands were occupied to some extent or another by private ranchers, fishermen, and vacationers from the early 1850s.[479]

During the summer of 1875, Paul Schumacher of the Smithsonian Institution undertook one of the first professional collections of artifacts from Santa Cruz and San Miguel Islands. Schumacher, however, did little to establish context or chronological sequences from his investigations. He was more interested in simply obtaining novel or otherwise interesting artifacts, most of which now reside in the Smithsonian collection. Despite its lack of contextual information, Schumacher's collection remains important for being one of the earliest of its kind, gathered within six decades of the historical removal of the Chumash. As a result, the Schumacher collection includes many perishable items such as wood handles for hafted knives that would have disintegrated in their native environment by the time later collectors arrived. Of similar importance to Schumacher, was the French collector Leon de Cessac, who made collections on Anacapa, Santa Cruz, and San Miguel Islands between 1877 and 1879, and also recorded ethnographic details from Chumash informants. Most of Cessac's collections, which remain uncatalogued, reside in the Musée de L'Homme and the Musée du Quai Branly in Paris, France. Also, during the late 1870s, contemporaneous with de Cessac's and Schumacher's expeditions, the Department of the Interior sponsored Reverend Stephen Bowers who collected artifacts on Santa Rosa and San Miguel Islands.[480]

Early ethnographers of the Island Chumash included H. W. Henshaw and Santa Barbara dentist Lorenzo Yates, both of whom departed from the usual practice of the artifact hunter by also seeking out and interviewing Chumash descendants, many of whom still lived on the mainland where they worked as laborers and cowboys on Anglo ranches. The most important of these ethnographers was John Peabody Harrington of the Smithsonian Institution, who compiled prolific notes from his interviews. These now constitute one of the primary sources of linguistic and cultural information about the Chumash from this transitional period when many traditions from the precontact period were still fresh. Although Harrington never

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478 Michael A. Glassow, ed, Channel Islands National Park, Archaeological Overview and Assessment. (Ventura, CA: NPS, CINP, 2010) 7; Archeologist Douglas Kennett is more reserved about the significance of these resources but still writes that "well-preserved archaeological deposits and the long-continuous record of human occupation make the Channel Islands one of the best areas in western North America to study foraging strategies, adaptive variability, and evolutionary processes." Douglas J. Kennett, *The Island Chumash: Behavioral Ecology of a Maritime Society*. (Berkeley: University of California Press, 2005) 5.

479 Lois J. Roberts, *San Miguel Island* (Carmel, CA: Cal Rim Books, 1991) 9.

480 Ann Huston comments to Lary Dilsaver, January 15, 2019.

collected physical artifacts from the islands, his ethnographic data is an invaluable complement to those material remains.[481]

Most late 19th century work, even when sponsored by professional institutions, was little better than relic hunting. By the early 20th century, however, researchers began to employ more systematic techniques, showing greater concern for recording provenience of features in excavation units and collecting information that could be used for establishing chronologies.[482] Beginning around 1927, David Banks Rogers, working under the sponsorship of the Santa Barbara Museum of Natural History, amassed important collections from Anacapa, Santa Cruz, Santa Rosa and San Miguel Islands. Though Rogers was still primarily interested in the more spectacular sort of artifact and concentrated on cemetery burials, his work displays a relatively higher degree of scientific rigor.[483] His field notes contain useful information describing the physical context of his discoveries, even though he rarely made maps or gave precise locations of features in his excavation units. Ronald L. Olson, a student of Alfred Kroeber at the University of California, Berkeley, collaborated with Rogers on Santa Cruz Island for a brief period in 1927 and 1928. Olson's work was more scientifically rigorous than that of Rogers, and his notes provide a better account of the investigations.[484]

Early investigations by Philip Mills Jones of the Phoebe Hearst Museum in Berkeley, California, and Arthur Woodward of the Los Angeles County Museum of Natural History (LACMNH) led to contact with Philip C. Orr, curator of anthropology and geology at Santa Barbara Museum of Natural History in 1941. Orr became the first archeologist to make a sustained study of the Channel Islands over a substantial period of time. He focused exclusively on the northwest side of Santa Rosa Island over a period of 21 years from 1947 to 1968. He worked out of a semipermanent camp he established with the permission of the Vail family, who took an active interest in the archeologist's work. The Vails often provided assistance to Orr, as did many of their employees and local oil company workers who were exploring on the island at that time.

Philip Orr's intensive study of northwestern Santa Rosa Island produced many important results, possibly the most famous of which was the discovery of the "Arlington Man." This was a human femur discovered in an eroding bank of Arlington Canyon, which Orr tentatively dated to approximately 10,000 years BP based on radiocarbon dating of other organic material found in the same context. Improved technologies subsequently pushed this date back to about 13,000 years BP.[485] Orr later boldly claimed he had discovered evidence of a 35,000-year old hunting camp, also in Arlington Canyon, though the evidence was far less convincing and proved controversial. This claim was eventually discounted, but Orr's Arlington Man had already established a much older chronology for human occupation of the Channel Islands than

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481 Harrington's notes are in the Smithsonian Collection. Among his few published works relating to the Channel Islands is *Breath of the Sun: Life in Early California as Told by a Chumash Indian, Fernando Librado*, To John P. Harrington (Banning, CA: Malki Museum Press, 1980).

482 Glassow, Channel Islands National Park, Archaeological Overview, 149.

483 David Banks Rogers, *Prehistoric Man of the Santa Barbara Coast* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1929).

484 Don Morris interviewed by Timothy Babalis, August 8, 2009, recording on file in CINP Archives. Olsen's notes have been archived in the anthropology collection at the University of California, Berkeley.

485 John R. Johnson, Thomas W. Stafford Jr., Henry O. Ajie, and Don P. Morris., "Arlington Springs Revisited," in D. Browne, K. Mitchell, and H. Chaney, eds., *Proceedings of the Fifth California Islands Conference* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 2002) 646-653.

previously assumed and set a precedent for further work on the Channel Islands by subsequent generations of archeologists. He also rashly claimed in print that the 182 sites he found on Santa Rosa Island represented the complete prehistoric record, but as of 2020 more than 1,000 sites have been identified on the island. Nevertheless, Orr's work was a significant turning point in the history of archeology on the Channel Islands. The length of time that he devoted to his fieldwork allowed him to be more thorough than his predecessors, and he was more careful than most of them, producing results that continue to provide useful information to researchers today, although Orr's methods were dated even for his own time. His mindset was closer to the 1930s, as one archeologist recently observed. Nevertheless, Orr represented the beginning of a truly modern approach to archeology on the Channel Islands.[486]

During the 1960s, Charles Rozaire of the LACMNH conducted investigations on San Miguel Island that were as comprehensive as Orr's work on Santa Rosa Island.[487] Working with museum colleague George Kritzman, Rozaire eventually surveyed the entire island. Their work represents possibly the earliest truly systematic investigation made there and forms the basis for nearly all that has subsequently been learned about precontact life on San Miguel Island. Rozaire also did much of the earliest serious archeology on Santa Barbara and Anacapa Islands, neither of which had been well-studied before the 1960s. The earliest documented studies of Anacapa and Santa Barbara Islands were not undertaken until 1958 when the University of California, Los Angeles (UCLA), made a basic archeological survey of all of the Channel Islands.[488]

In 1973, Michael A. Glassow began working on Santa Cruz Island with Albert Spaulding, both from the Department of Anthropology of the University of California, Santa Barbara (UCSB). Their work represented the most extensive investigation that had been done on this island since Ronald Olson more than 50 years earlier, but Glassow and Spaulding were far more rigorous than any of their predecessors. Their work included a systematic sampling of about 10% of the island's total surface area. Based on their research, they estimated that more than 3,000 discrete sites existed islandwide. This suggested an occupational density far in excess of mainland Chumash populations, with no site more than a quarter mile from any other. This was similar to the density that Rozaire and Kritzman observed on San Miguel Island. In an interesting side note, Marla Daily, who would later play a significant role in the recent history of Santa Cruz Island as Carey Stanton's personal assistant, was hired by Dr. Glassow as the research team's cook. Daily had just graduated from UCSB with a degree in anthropology. Glassow's archeological team was based out of the UC field station near the main ranch where Carey Stanton lived at that time. Daily was later hired by Stanton as a result of their acquaintance during this experience.[489]

In 1976, the National Park Service, through its Western Archeological and Conservation Center (WACC) contracted Glassow to prepare a summary and evaluation of all recorded archeological work that had occurred on the islands. This archeological overview was requested "in order to

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486 Livingston, "Island Legacies," 305-311; Torben C. Rick, Jon M. Erlandson, Rene L. Vellanoweth, and Todd J. Braje, "From Pleistocene Mariners to Complex Hunter-Gatherers: The Archeology of the California Channel Islands," *Journal of World Prehistory* 19 (3) 2005, 169-228; Jeanne E. Arnold, Michael R. Walsh, and Sandra E. Hollimon, "The Archaeology of California," *Journal of Archaeological Research* 12 (1) 2004, 1-72; and Don Morris telephone interview with Lary Dilsaver, August 24, 2018.

487 Charles E. Rozaire, Archaeological Investigations on San Miguel Island (Washington, DC: DOI, NPS, 1965).

488 Marshall B. McKusick, "An Introduction to Anacapa Island Archaeology," UCLA Annual Archaeology Report, 1958-1959. (Los Angeles, UCLA, 1959).

489 Marla Daily interviewed by Timothy Babalis, August 19, 2009, recording and transcript on file in CINP Archives, Cat. 35818.

provide background information necessary for the effective management of archeological resources on the Northern Channel Islands and Santa Barbara Island of the southern group."[490] Glassow presented a number of important conclusions in his study and proposed several recommendations for further research. At the top of his list was the controversial challenge of ascertaining the age of human occupation on the islands, but he also included further research into the development of maritime subsistence relative to the consumption of plant products either traded from the mainland or harvested on the islands; the development of associated technologies ranging from shellfish hooks to the large planked watercraft known as *tomols*; explication of island settlement patterns that were characterized by higher density, greater proximity, and likely smaller average size than on the mainland; economic relationships between the islands and the mainland; and the possibility that craft specialization played an important role in island economies and social institutions. This was suggested by considerable material evidence of the production of flaked chert blades, drills, and olivella shell beads.

Of related interest was the role that environmental differences between the islands and the mainland may have played in determining the nature of Chumash economic systems, especially those leading to specialization. Finally, Glassow recommended that further research be made into the relationship between environmental change and cultural patterns. Though he only alluded to the possibility, this was an area where archeology might contribute to a richer understanding of the islands' historical ecology.[491] One possibility was suggested by Philip Orr's observation of a diet change from red abalone (*Haliotis rufescens*) to black abalone (*H.cracherodii*) and mussels (*Mytilis* spp.) during the transition from early to middle Holocene periods. Since the latter species prefer relatively warmer waters than red abalone, Orr inferred that average water temperatures around the islands changed during the period spanning the two midden deposits.[492]

Glassow also noted that the absence of burrowing rodents allowed an unusually high potential for productive archeological research on the Channel Islands, at least on sites that had not already been disturbed by amateur relic hunters. This was in marked contrast to most mainland sites where, in addition to extensive development of the coastal areas, pocket gophers, ground squirrels, and similar animals constantly turned over the soil, disturbing its stratigraphy and confusing the temporal record of archeological deposits. Recognizing the exceptional quality and scientific importance of the prehistoric archeology on the Channel Islands, Glassow concluded that "... it would be no exaggeration to say that the islands' archaeological resources should be considered as some of the most valuable on the west coast of North America. It is incumbent, therefore, that as much as possible be done to insure their preservation through responsible management programs."[493]

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490 Michael A. Glassow, An Archaeological Overview of the Northern Channel Islands, California, Including Santa Barbara Island (Tucson, AZ: National Park Service, Western Archaeological Center, 1977).

491 Archeologists are currently collaborating with geologists, palynologists, and other disciplines to examine the historical ecology of the islands.

492 Michael Glassow later researched this question himself. See Glassow, "The Occurrence of Red Abalone Shells in Northern Channel Island Archaeological Middens: Implications for Climatic Reconstruction," in F. G. Hochberg, ed. *Third California Islands Symposium: Recent Advances in Research on the California Islands* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1993) 567-576.

493 Ibid.

Responding effectively to Glassow's conclusions required a more detailed and comprehensive inventory of the archeological resources than the park had at that time. To obtain this information, resource managers included cultural resource inventories as part of the initial process of gathering baseline data for the monument's original General Management Plan. In 1977, the NPS Denver Service Center (DSC) let contracts for both archeological and historic surveys. Roberta Greenwood of Greenwood and Associates undertook the archeological survey focusing on an evaluation of the condition of known archeological sites on the three islands managed by the monument. The National Park Service asked Greenwood to revisit sites that had been previously recorded and to organize data about them into a single, comprehensive and internally consistent record with base maps. The overview prepared by Dr. Glassow the previous year substantially aided this task. The agency also asked Greenwood to evaluate these resources according to the criteria for nomination to the National Register of Historic Places. Her investigations led to the eventual listing of Anacapa, San Miguel, and Santa Barbara Islands as discrete archeological districts.[494]

The DSC contracted Dr. Lois Weinman of Chambers Consultants and Planners at the same time to prepare a historic resource study of the monument islands and San Miguel Island to provide an understanding of their historical context and to identify significant themes relating to their cultural resources. She completed her survey in April 1978. Weinman focused almost exclusively on the postcontact period, beginning with the early European voyages of exploration from the 16th century onward. She also provided historical background on such themes as the exploitation of marine mammals during the 19th century as well as general maritime activities. The latter included early coastal surveys and the development of navigational aids, like the lighthouse reserves on Anacapa and Santa Barbara Islands, as well as some of the shipwrecks directly associated with the Northern Channel Islands. She documented the settlement and subsequent economic utilization of Santa Barbara, Anacapa, and San Miguel Islands, culminating with the establishment and early development of the national monument. The major thrust of Weinman's research, however, was military history, particularly the role the islands had played in World War II and immediately afterwards during the Cold War. This was justified by the fact that many of the most visually prominent cultural resources found on these islands were associated with military development. The only significant exception was the Coast Guard's navigational facilities, which she also carefully documented. As a result of Weinman's research, the 1932 Coast Guard light stations on East Anacapa Islet was listed in the National Register of Historic Places, although not until 1990.[495]

The Beginning of a Cultural Resource Management Program

These studies clearly established the significance and the many types of cultural resources present on the Channel Islands and the need for cultural resources expertise on the park staff. At the end of 1979, Superintendent Ehorn hired Bruce Craig, who held a master's degree in public history at UCSB and had recently graduated from the NPS ranger intake program. Although primarily engaged in developing the park's interpretive program, Craig also initiated

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494 Roberta S. Greenwood, Archeological Survey and Investigation, Channel Islands National Monument, California (Denver, CO: Denver Service Center, NPS, 1978); National Register of Historic Places listings: Anacapa Island Archeological District (added 1979 - District -NRIS #79000257) San Miguel Island Archeological District (added 1979 - District -NRIS #79000258) Santa Barbara Island Archeological District (added 1979 - District -NRIS #79000259).

495 Superintendent's Annual Report for 1978 (March 19, 1979), CINP Archives, Cat. 13117, Box 1, Folder 6; the Coast Guard reserve was listed in 1991 as the "Anacapa Island Light Station" (National Register IS #91001101).

the park's curation program, assisted with historic preservation compliance, and participated in the 1982 Santa Rosa Island and 1983 Santa Cruz Island resource surveys, writing histories of the islands as part of the study.

In 1985, Ehorn hired archeologist Don Morris who had participated in the 1982 resource survey of Santa Rosa Island. At that time, he had completed ruins stabilization in the Southwestern parks and monuments for the Park Service's Western Archeological Conservation Center in Tucson, Arizona, and "was embroiled in meaningless paper shuffling." He was asked to spend a week on Santa Rosa Island, which he later described as "a week with far reaching consequences" for his career. It was because of this survey that Morris became aware of the significance of the prehistoric archeology on the islands and advised Superintendent Ehorn how important it was that the park hire an archeologist to manage these resources. He was so excited by what he had seen that he told Ehorn he would apply for the job himself if the position ever became available. A little over two years later it did, and Ehorn hired Morris. Although he was pleased at this unexpected opportunity, Morris recalls being puzzled that the park chose to hire him, because he was still young and relatively inexperienced and knew practically nothing about West Coast archeology, much less the Channel Islands.

> *Why did they give this assignment to someone who's an absolute novice ... when the woods are full on the mainland of archeologists who are quite competent in this area and work with it routinely? And I was told that the Vails didn't want any of the local archeologists involved. So they were willing to take a complete newbie.*

Morris never learned why the Vails felt this way or were believed to feel this way, but he became the first archeologist to spend any significant time on Santa Rosa Island since Phil Orr had retired in 1968, 17 years earlier.[496] Ehorn later stated:

> *I don't remember the Vails' having any opinion about an archeologist (local or otherwise). I remember that the Vails did like Don. It is likely that it was easier for me to hire him because he was already an NPS employee and could be hired directly from the Archeological center (and I already knew him from his first trip to the islands). It would have been a lot harder to hire someone that wasn't already in the Park Service. Someone might have told him that there was a bias against local archeologists, but if so, I wasn't aware of it.*[497]

Morris's initial impressions concerning the significance of precontact archeology on the Channel Islands were quickly confirmed. When he first came to Santa Rosa Island in 1982 for the survey, ranch foreman Bill Wallace, who had an amateur interest in archeology, took him to a burial site along the northeastern shore that Wallace thought might be especially old. Morris collected samples from the site and submitted them to a laboratory for radiocarbon dating. The results came back four years later, shortly after he had returned to the Channel Islands, and indicated that the burial was more than 9,000 years old, making it the oldest human site yet documented in California. Not long afterwards, Dan Guthrie, a paleontologist at Claremont College, who had done some work on material from Daisy Cave on San Miguel Island, contacted Morris with an even more startling discovery. Charles Rozaire had worked there in

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496 Don Morris, interview by Timothy Babalis, August 8, 2009, recording on file in CINP Archives; Morris e-mail to Lary Dilsaver, January 2, 2019.

497 Bill Ehorn comment to Ann Huston, April 9, 2020.

the 1960s but did not have money for radiocarbon dating to confirm his assumption that the basal date of cultural strata he had investigated was about 3,000 years BP. When Guthrie looked at material from the same basal stratum, he noticed bones from an extinct flightless sea duck (*Chendytes lawi*), that was assumed to have gone extinct around the end of the Pleistocene about 10,000 years ago. This suggested that Rozaire's estimate was much too recent. After hearing Guthrie's thoughts, Don Morris decided to investigate further and went out to the site with Guthrie and Pandora Snethkamp of UCSB. Morris and Snethkamp took samples that they submitted for radiocarbon dating and discovered that the basal stratum at Daisy Cave was at least 10,000 years old. Later sampling pushed this horizon back even further to between 11,000 and 12,000 years BP.

This was now reported to be the oldest documented site in North America, and Morris realized that further research, both at Daisy Cave and throughout the islands, was imperative. He also recognized that his own skills and experience were not adequate to address this challenge, so he decided to bring in more qualified scholars from outside the Park Service. In doing so, Morris understood that his role, as NPS cultural resource manager, was to encourage and support the work of professional specialists and to act as gatekeeper for the resources they needed to study. Rather than doing the primary research himself, his job was to recognize and enlist the help of qualified scholars and to facilitate their work by taking care of the bureaucratic details of compliance, reporting and so forth. In seeking to fulfill this responsibility, Morris looked for someone who could take on the challenge of Daisy Cave and consulted Dr. Snethkamp. She recommended a recent graduate of UCSB named Jon Erlandson, who enthusiastically accepted the opportunity. Erlandson ended up devoting much of his professional career to studying Daisy Cave and the archeology of the Channel Islands and is now one of the leading experts on these important archeological resources.[498] Morris later claimed that one of his most important achievements was introducing Jon Erlandson to San Miguel Island and making it possible for him to work there.

Although Don Morris was content to facilitate the work of other scholars in the investigation of precontact archeology, he felt personally qualified to address some aspects of the historic archeology of the Channel Islands himself. Of special interest to Morris were the islands' submerged cultural resources, primarily its shipwrecks. Many wrecks had occurred off the Channel Islands since the beginning of the American period in California in 1848, but few of these had ever been identified or documented by the park.[499] Morris was certified in SCUBA by the Park Service's Submerged Cultural Resources Unit before he came to Channel Islands, so he was prepared to address this challenge and devoted himself to it enthusiastically. Shortly after arriving, he visited the *Winfield Scott*, diving on the wreck with Gary Davis. The *Winfield Scott* was a 225-foot side-paddle steamer that had run aground off middle Anacapa Island in 1853. The wreck had been salvaged in 1894, but much archeologically valuable material still lay scattered over a wide area of the ocean floor. NPS historian James Delgado from Golden Gate National Recreation Area, with the assistance of Channel Islands staff and Matt Russell, an

498 Jon Erlandson has been a professor at the University of Oregon since 1990 and the director of the university's Museum of Natural and Cultural History since 2005.

499 As of 1996, when the park's first Submerged Cultural Resources Assessment was completed, 150 vessels were known to have wrecked in the general vicinity of the Channel Islands, based on historical records. Of those, 94 wrecked within the boundaries of the present national park, and 21 had been located and identified at that time. See Don P. Morris and James Lima, Submerged Cultural Resources Assessment, Channel Islands National Park and Channel Islands National Marine Sanctuary (Santa Fe, NM: National Park Service, Submerged Cultural Resources Unit, 1996) 183.

archeology student from UCSB, had mapped the wreck in 1983 and completed historical research that resulted in the listing of the *Winfield Scott* in the national register.[500] Morris, regional archeologist Roger Kelly, and others followed up on these precedents and began mapping other wrecks around the islands during yearly cruises on the *Pacific Ranger*. Among the shipwrecks they documented were the *Aggi, Cuba, Goldenhorn,* and *Jane L. Stanford*.

Figure 4-5. Ranger Ian Williams measuring the mast on the *Aggi* wreck.

Source: Photograph by Robert Schwemmer, October 2008. CINP Digital Image Files.

Curation

Although the monument had collected various artifacts and items related to the islands, no record exists of any curatorial activity conducted by the National Park Service during the monument period. Prior to 1980, the Los Angeles County and Santa Barbara Museums of Natural History and other institutions accessioned and maintained the biological and archeological materials that they were collecting during this time. For the most part, these collections are still located at the institutions. In addition, the NPS Western Region biologist conducted a semiannual survey of the monument. Data from these survey records, which were filed at the regional office, as well as some of the records themselves, have been added to the park's museum collection. However, the information was often incomplete or missing altogether, and curation was haphazard.

500 James P. Delgado, "'Water Soaked and Covered with Barnacles: The Wreck of the SS Winfield Scott," *The Pacific Historian* 27 (2) Summer, 1983. The site was listed as "SS Winfield Scott (Steamship)," National Register IS #87002111, Sept. 12, 1988.

With the establishment of Channel Islands National Park in 1980, sustained collecting began with the purpose of creating visitor center exhibits.[501] Chief of Interpretation Bruce Craig started the park accession log book, and initiated cataloguing the miscellaneous materials that had previously been collected and stored at the park. Along with natural and cultural objects from the islands, the park also collected materials from outside park boundaries. Collections appeared to concentrate on the objects' fitness for exhibit, rather than on their provenience. All donations were accepted and curated, no matter the material's origin, relevance, or condition, perhaps because the park lacked a "Scope of Collection Statement" during this period. From approximately 1983 to 1989, Myrle Kirk, a volunteer who also worked for the Ventura County Museum of History and Art, carried out the bulk of the curatorial duties. Several loans between the two institutions occurred during this time. This period of curation continued the haphazard collecting patterns of the past, but the records were more thorough and periodic inventories helped reduce losses from the collection. The park demonstrated little interest in curation, other than acquiring interpretive articles.

It was also at this time that all of the photographs cataloged into the collections were removed from the records and stored in a separate photo file with its own cataloging system. Batches of photos from a single roll of film, or collections from specific projects or trips, were divided and filed by subject to better facilitate interpretive use in publications and exhibits. Unfortunately, the batches of photos were seldom cataloged or inventoried before they were divided, making it difficult to recover the original provenance or order later on.

In 1985, the park drafted a "Scope of Collection Statement" (SOCS) to comply with NPS requirements. The statement was hastily put together by park staff and submitted by Chief of Interpretation Mary Gibson Park for regional approval. The first SOCS was brief and general, with most of the text coming straight from the NPS *Museum Handbook*. Although the new SOCS set standards for the park collection and was approved by the regional office, collecting of materials continued in the same pattern as before. The park collections were stored in three standard museum cabinets and one herbarium cabinet. At one time, stored in the maintenance area, the cabinets were moved into the interpretive workroom at park headquarters. The cabinets were later moved to the interpretive storage room in the auditorium, where, because of limited space available, they were stacked and placed face to face, preventing complete opening of the cabinet doors.

In 1986, Linda Kelly from the Interpretive Division was assigned the curatorial responsibilities. While Myrle Kirk still volunteered during this time, he departed in 1989. Linda Kelly was the first person with responsibility for the collections who had received NPS curatorial training. When specific curatorial funding became available for the first time in 1987, the focus of curation shifted to catalog data entry. The park's catalog records were entered into the Automated National Catalog System (ANCS) that summer, primarily by Ed Corkill. Later that year, however, the hard drive of the computer containing the ANCS records was believed to have crashed, and no further ANCS data entry occurred until 1991. Linda Kelly left the park in 1988, and curatorial responsibilities fell to the interpretation staff. Although several staff members attempted to work with the collections, their poor condition in storage, exhibits, and records proved too much for anyone to handle in addition to their regular interpretive duties.

501 The following information is drawn from the park's 2018 Draft Museum Management Plan.

By this time, at least one hanging exhibit panel of Chumash artifacts had been placed in storage because of pilferage.[502]

RESOURCE MANAGEMENT AT THE END OF THE 1980S

By the end of the park's first decade, resource management at Channel Islands National Park remained understaffed and limited in what it was capable of doing, but compared to the monument days, considerable progress had been made. Both natural and cultural resource programs were now headed by trained specialists, Frank Ugolini, as the park's first chief of resources and Don Morris managing all cultural resources in that division until a separate chief of cultural resources position was created in 1998. Ugolini oversaw the major revision of the park's original Resource Management Plan, completed in 1984 and published with the revised GMP in January 1985. Both focused heavily on the proposed additions of East Santa Cruz Island and Santa Rosa Island that now lay within the legislative boundaries of the park and were expected to be purchased in the near future.[503] Access had been limited to these locations by the private landowners, but Ugolini was able to prepare a general summary of resources and how the National Park Service proposed to manage them. Although the RMP clearly acknowledged the significance of cultural resources on all the islands, management recommendations emphasized the restoration and maintenance of a natural condition, in accordance with NPS natural resource policies. Ugolini wrote, "Generally, all of the park islands will be managed to achieve as nearly as possible the dynamic natural conditions that would have existed without historic man's intrusion on ecosystems and processes."[504] Significantly, the RMP also recommended that consideration for wilderness status be deferred because of noncomplying activities, such as the use of motorized vehicles and maintenance of existing roads, that would come with the proposed restoration of natural conditions.

Apart from the problems posed by limited access to Santa Rosa and East Santa Cruz Islands, natural resource managers had acquired a fairly comprehensive understanding of most of the islands' natural resources, both terrestrial and marine, by the end of the 1980s. Baseline research and management guidelines were well underway through the science program implemented by Gary Davis and Bill Halvorson. Conceptually, the park was now prepared to carry out long-term monitoring of designated vital sign indicators from all of its major natural ecosystems. Lacking, however, was the resource management staff to implement these protocols. This was the most serious problem facing the natural resource management program at the end of the decade.

Cultural resource management at Channel Islands was not nearly as well developed as natural resource management at this time, despite the vast quantity and acknowledged significance of the resources themselves. The 1982 Resource Management Plan, which had been written to accompany the pre-park General Management Plan, addressed cultural resources only briefly and in the most general way. According to the introductory statement, the program consisted of two primary aspects: "Continuing survey of cultural resources in the park [and] …Decision

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502 The preceding section on curation was provided by former Chief of Cultural Resources Ann Huston and emailed to Lary Dilsaver on January 30, 2019.

503 US Department of the Interior, General Management Plan: Channel Islands National Park, California (Washington, DC: National Park Service, 1985).

504 CINP, "Resource Management Plan," 1985, 40.

about stabilization of cultural sites, possible stabilization of some sites, salvaging of others."[505] As this implied, baseline knowledge of the park's cultural resources was still far from adequate and would not be addressed by the I&M program. Stabilization, rather than original research, was one of the chief concerns at that time, primarily because of the threat from erosion that was exposing many precontact archeological sites, causing them to be washed away. Interestingly, this problem, and its eventual mitigation, overlapped with an important concern of natural resource managers—the impoverishment of island vegetation by historic overgrazing, especially by sheep on San Miguel Island. The restoration of the natural vegetative cover would serve the interests of both natural and cultural resource managers.

The revised RMP that accompanied the 1985 GMP included a much more expanded treatment of cultural resources, for the first time clearly identifying all of the major types of cultural resources present. For example, in describing the proposed additions to the park, the report noted that:

> *The significant cultural resources on eastern Santa Cruz and Santa Rosa Islands consist mainly of sites related to 19th century marine mammal hunting, structures associated with ranching operations, archeological sites related to prehistoric and historic occupation of the islands, abandoned military sites, and submerged cultural resources, such as shipwrecks.*

Several individual resources from the other better-known islands were also described, like the Lester Ranch and Nidever adobe on San Miguel Island and the Coast Guard light station on Anacapa, but for the most part the report used standardized language to describe servicewide cultural resource management objectives rather than addressing specific problems or goals unique to Channel Islands' own resources.[506] Don Morris quickly addressed these planning deficiencies and prepared a revised management plan to replace the cultural section in the 1982 Resources Management Plan when he arrived in 1985. For all intents and purposes, this was the park's first cultural resources management plan, and included 15 project statements, all but two of which were new. Perhaps even more importantly, the plan contextualized the park's cultural resources in a coherent narrative of human occupation and use that extended from the oldest known archeological sites dating more than 9,000 years ago to ranching and World War II military structures from recent history. Morris proposed an integrated approach toward understanding and managing these cultural resources that would coordinate "the methods and findings of archeology and history, along with appropriate ties to various aspects of the natural sciences research and monitoring programs within the park."[507]

505 US Department of the Interior, Natural and Cultural Resource Management Program: An Addendum to the General Management Plan, Channel Islands National Park, California (Washington, DC: National Park Service, 1982), 16.

506 NPS, General Management Plan (1985), 43-45.

507 Don P. Morris, Cultural Resources Management Plan, Channel Islands National Park (Ventura, CA: NPS, Channel Islands National Park, 1985).

CHAPTER FIVE

Building the New Park

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CHAPTER FIVE: BUILDING THE NEW PARK

Passage of the park's enabling legislation in 1980 dramatically increased the boundaries of the new national park system unit but did not result in an immediate increase in its actual size. Much of the new park still had to be acquired or cooperative management responsibilities defined where property titles could not be transferred. This would be a time-consuming and often difficult process and would follow a very different course on each island, depending on the existing owners or property managers. The simplest transfers of authority to the National Park Service involved lands and property owned by other federal agencies such as the US Coast Guard on Anacapa Island. This resulted in the earliest actual growth for the park, allowing direct park management and development of facilities even before the transfer of title was complete. Properties held by private owners presented greater challenges. Not until these properties were either acquired or formal agreements were negotiated between the interested parties could the park begin to exercise any management responsibility for the islands' resources or develop their facilities. This process, in turn, could not begin until the park defined its objectives and needs through a comprehensive and multi-tiered planning process, most of which was included in the updated General Management Plan completed in 1984 and approved in 1985.[508]

PRECEDENTS TO GROWTH

The 1975 Anacapa Island agreement between the National Park Service and the US Coast Guard worked well enough for immediate purposes, effectively preserving some of the historic structures and providing park staff with access to the eastern islet. However, the park's enabling act of 1980 authorized the National Park Service to acquire lands within the legislative boundaries of the new national park system unit, including property transferred from other federal agencies.[509] Shortly after its establishment, the new national park began seeking a public land order to transfer the remaining 160-acre surplus property on East Anacapa Islet from the USCG to the National Park Service. This still would give the Coast Guard access to service its now-automated aids to navigation. Although the USCG was initially unresponsive to the Park Service requests, it finally agreed to transfer all but the easternmost promontory of East Anacapa Islet in 1983.[510] The actual transfer took several decades due to delays in the three-way communications among the USCG, the Bureau of Land Management and the National Park Service. There were also required hazardous material surveys and environmental clearances for the fuel oil spills around the underground fuel tanks and lead contamination around the water tank building. By the time the transfer took place on January 2, 2009, the Coast Guard had

508 US Department of the Interior, Channel Island National Park, California: General Management Plan (Ventura, CA: NPS, CINP, 1985). (Hereafter referenced as GMP, 1985).

509 Public Law 96-199, Section 202(a).

510 NPS, Resource Protection Case Study: Channel Islands National Park (Land Protection Study). Washington, DC: NPS, 1982; Superintendent's Annual Report for 1983 (Feb. 29, 1984), CINP Archives, Cat. 13117, Box 1, Folder 5.

agreed to transfer all of their property on East Anacapa Islet to the National Park Service, including the promontory with the lighthouse and fog signal building.[511]

The Land Protection and General Management Plans

The park's enabling legislation had required a new General Management Plan by October 1, 1983, but park officials chose to prepare a supplement rather than rewrite the existing plan from scratch. That way the new document could build on work already completed and provide additional material addressing issues unique to Santa Cruz and Santa Rosa Islands. Only minor modifications of the general concepts outlined in the existing plan were anticipated, though in retrospect this assumption proved overly optimistic.

The key issues that the new GMP had to address regarding the new islands fell into three broad categories: land acquisition and protection, resource management, and visitor use. The latter would need to include transportation as well, because visitation was closely tied to the public's ability to access the islands. Resource management was closely related to land protection and posed daunting problems. Despite the advances in resource management planning and the inauguration of inventory and monitoring procedures, the most immediate challenge confronting park resource managers and the planning team on Santa Cruz and Santa Rosa Islands was inadequate knowledge about the resources themselves. The Santa Barbara Museum of Natural History organized an islands symposium that same year and brought together more than 400 scientists, students, government employees, and interested laymen to discuss and share knowledge about all of the California islands.[512] However, despite the maturation of research by the park staff and contributions by other researchers, the results were not comprehensive. Substantial gaps still existed in knowledge about Santa Cruz and Santa Rosa Islands, where some private landowners were reluctant to cooperate with scientists. Where information did exist, it was often out of date and further studies would have to be made.[513]

After requests for access were submitted to the private owners and denied, park planners and resource managers were forced to rely on less accurate methods, conducting aerial surveys of large-scale resources like archeological middens and broadly defined vegetative associations. The data they obtained was very coarse. The inventory and monitoring program implemented by Gary Davis attempted to make a comprehensive survey of island natural resources but encountered the same obstacles as the GMP team. Given these limitations, the planners could only prepare a conceptual proposal for resource management, with locations of potential functions and facilities indicated in a generalized fashion. They needed site-specific studies to determine the environmental impacts of proposed concepts before they implemented any actions.

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511 Greg Gress telephone conversation with Timothy Babalis, June 25, 2012, and lands documents provided by Gress. Jack Fitzgerald comments to Ann Huston, March 10, 2020.

512 Dennis M. Power, ed., *The California Islands: Proceedings of a Multidisciplinary Symposium* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1980) This was actually the second major symposium concerning scientific and scholarly study of the California islands and took place in 1978. The first took place in 1965 and was organized by the Santa Barbara Botanic Garden. Ralph N. Philbrick, ed., *Proceedings: Symposium on the Biology of the California Islands* (Santa Barbara, CA: Santa Barbara Botanic Garden, 1967). The symposia have continued to take place periodically ever since, with the most recent, the 9th, in 2016.

513 Only Carey Stanton vigorously supported research on his land by allowing the University of California to establish a research center near the Main Ranch.

Of the three issues addressed by the GMP, visitor use depended almost entirely on the other two. It was also affected, at least in principle, by the legislative requirement that the islands be managed on a limited-entry, low-intensity use basis.[514] Acting NPS Director Daniel Tobin Jr., carefully defined these concepts in his testimony during the legislative hearings on the park bill but concluded, surprisingly, that:

> *The Service intends to implement the limited-entry/low-intensity use concepts very judiciously. While these concepts are intended to be used to protect fragile and environmentally sensitive portions of the islands, other major portions of the islands can withstand substantial visitor use.*[515]

This qualification seemed to leave open the possibility that the islands might be developed according to the densely clustered pattern nominally allowed by Santa Barbara County's Coastal Land Use Plan, which would permit up to 2,300 residential units on both Santa Cruz and Santa Rosa Islands.[516] However, the issue was essentially moot because visitor use and associated infrastructure development by the National Park Service was impossible on Santa Cruz and Santa Rosa Islands without the cooperation of the private landowners, none of whom shared Tobin's enthusiasm for campgrounds and comfort stations. As Park Service planners drily noted, "mixed ownership and jurisdiction can lead to conflicting land protection and resource management strategies," and in this instance, the various stakeholders clearly did not share common interests or objectives as far as the future management of these islands was concerned.[517]

Practically speaking, visitor use levels could not be determined until an effective land protection policy was adopted. Nor could sustainable carrying capacities be established until the affected resources were identified and their potential impacts accurately described. The legislative stipulation to manage for limited-entry and low-intensity use was much too vague to provide adequate guidance. Acting Director Tobin's lax interpretation of this clause illustrates how malleable the legislation could be. Given these ambiguities, visitor use did not draw as much attention as the discussion of land protection or resource management issues. For similar reasons, the issue of transportation also remained subsidiary and not discussed in depth. Until the park could establish how many visitors it was capable of managing sustainably, the question of how many could be transported to the islands was incidental.

These limitations led the planners to adopt a conceptual approach in their preliminary draft. This proved disastrous when presented to the public during a series of workshops held in June and July of 1982. Hoping only to stimulate discussion, the planners provided much too broad a range of alternatives, including options for development that appeared excessive. Many participants at the workshops mistakenly assumed that these were actual proposals and reacted with alarm. Their comments, however, proved valuable because they helped define what the local public and private landowners considered acceptable. They also indicated that many of the draft alternatives were alternatives in name only, since they could never realistically be

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514 Public Law 96-199, Section 204(a).

515 Quoted in NPS, GMP, 1985, 13.

516 Section 4.8.6 (and relevant definitions) in Kirvil Skinnarland et al., Coastal Land Use Plan (Santa Barbara, CA: County of Santa Barbara, Planning and Development, 1982; republished 2009, 2014, and 2019). This plan was being completed even as NPS Acting Director Tobin gave his testimony before Congress. The state Coastal Commission denied certification only a few months later, primarily because the commissioners objected to the development potential allowed for the Channel Islands.

517 NPS, GMP, 1985, 5.

considered. Among other lessons, this taught the planners to appreciate the importance of working from actual experience obtained in the field.[518]

During the time that this conceptual plan was being prepared, the Department of the Interior initiated a critical review of NPS land acquisition and protection practices. This reflected the new attitude brought to the department by Interior Secretary James Watt, recently appointed by President Ronald Reagan at the beginning of his first term in office. Secretary Watt was an advocate of private property rights and objected to past federal practices that, in his opinion, relied too heavily on eminent domain and fee-simple acquisition to transfer property from private to public sectors.[519] With the encouragement of Watt and like-minded colleagues in the new government, the General Accounting Office (GAO) prepared a report on *Federal Land Acquisition and Management Practices* that questioned why the government had relied almost entirely on fee-simple purchases instead of other methods for protecting park resources. The recommendations of this study were supported by a similar report resulting from a congressional workshop on public land acquisition conducted by the Senate Committee on Energy and Natural Resources in July 1981.[520]

In response to these critical assessments, the Park Service initiated eight servicewide studies designed to explore alternatives to fee-simple purchase. Each study examined how needed resource protection might be achieved through conservation easements, transfer of development rights, or other nontraditional methods applied instead of, or in combination with, outright acquisition. Channel Islands National Park was chosen as one of these studies, resulting in a report completed in June 1982 and entitled simply "Resource Protection Case Study." One early and very important consequence of this study was an improvement in trust between the Park Service and the private landowners of Santa Cruz and Santa Rosa Islands. Believing that they now shared common, or at least not antithetical, interests, the landowners granted permission in February of 1982 for the Channel Islands case study team, including members of the general planning team, to visit Santa Rosa and East Santa Cruz Islands. The planning team was able to refine its concepts for future use and management based on this brief reconnaissance and using existing aerial photographs, topographic maps, and data that were available but incomplete and sometimes out of date. Park planners used these refined concepts by the case study team to explore protection alternatives.

As its authors readily admitted, the 1982 case study remained inconclusive because the general management plan was not yet finished. The research conducted for the case study was helpful, but a GMP was still necessary to determine visitor use and resource management strategies. Without such information, the nature and extent of ownership required to protect these resources could not be accurately determined. As a result, the case study authors recommended that future land protection research be conducted only after the GMP was completed. However, the report did identify four priority acquisition options out of a list of 10 possibilities. All four would allow the National Park Service to ultimately acquire the lands in question, but the method by which this could be done varied considerably. In the first option, oil leases on the Outer Continental Shelf, that were managed by the federal government through its Minerals

518 NPS, GMP, 1985, 10-11.

519 Greg Gress conversation with Timothy Babalis, July 30, 2010.

520 United States General Accounting Office, Federal Land Acquisition and Management Practices: Report to Senator Ted Stevens (Washington, DC: General Accounting Office, 1981). CED 81-135.

Management Service (now three separate Department of the Interior agencies) would be granted to private developers in exchange for a comparably valued parcel of land within the island inholding. Although this option would require modification of certain existing laws, it provided a ready funding source that precluded further congressional appropriations and assured private landowners a reasonable compensation.[521]

A second option would offer concession rights in exchange for the land, either in part or in full. This provided an economical means of offsetting the original cost of purchase and might create an incentive for infrastructure development to support visitor activities. However, the report also noted that it would be difficult to enforce NPS policy among concession-holders with commitments on the islands predating Park Service presence. It might also be difficult to develop enough business capacity to make the concessions financially worthwhile, especially on Santa Rosa Island, which could not expect to receive much visitation given its distance from the mainland. A third option involved a land exchange with comparably valued property owned by the Bureau of Land Management or the General Services Administration. The chief disadvantage of this option was the bureaucratic complexity of the process itself, which would be time-consuming and expensive. The BLM still resented the many tasks it had to perform for numerous exchanges of this sort at Joshua Tree National Park.[522] The final and simplest option was direct purchase with funds appropriated by Congress. Two additional options: "deauthorization" of Santa Cruz and Santa Rosa Islands, and "no action" were also considered but rejected, the former because it violated the intent of Congress in Public Law 96-199, and the latter because it left the future status of the private inholdings unclear, clouding their title and potentially diminishing their monetary value.

These options for land acquisition partially depended on the level and nature of use that would be implemented on the two islands. Although this study did not specify what this would be prior to the completion of the GMP, it did propose several visitor-use concepts that the authors believed expressed the full range of possibilities that might be considered. On Santa Rosa Island, this included: (1) access limited to research with only small areas developed and occupied by the National Park Service, most likely at Bechers Bay and Johnsons Lee, while private hunting and ranching continued on the remainder of the island; (2) minimal visitor use, with similar low-levels of NPS development as in the first possibility, but now for controlled public recreation rather than research with the remainder of the island used for hunting and ranching; and finally (3) minimal visitor use with no ranching or hunting, and the majority of the island restored to wilderness conditions. None of these possibilities envisioned high levels of visitor use or infrastructure development, in part because of the island's relative inaccessibility—at that time, the boat journey out could take from four to six hours—but also because of the park's legislative stipulation that the islands be administered on a "low-intensity, limited entry basis." [523]

The range of use proposed for Santa Cruz Island included four options. Like the proposal for Santa Rosa Island, two minimal visitation possibilities were envisioned, one with existing levels of private ranching and the other with ranching terminated and wilderness conditions restored.

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521 For example, the Land and Water Conservation Fund Act of 1965 (78 Stat. 897), which forbids interstate land exchanges. These would have included OCS areas, which lie outside state boundaries. The LWCF Act would have to be amended to classify OCS areas as part of the state they adjoin for the purposes of making such an exchange. NPS, Resource Protection Case Study, 1982, 22.

522 Lary M. Dilsaver, *Preserving the Desert: A History of Joshua Tree National Park* (Staunton, VA: George F. Thompson Publishing, 2016) 187.

523 NPS, Resource Protection Case Study, 1982; Public Law 96-199, Section 204(a).

Unlike Santa Rosa, none of the Santa Cruz Island possibilities envisioned research access with no public visitation. Planners proposed two levels of visitation, one accommodating day and overnight use and the other for extended visits. Both of these would require the termination of private ranching and the development of additional recreation infrastructure. The extended use possibility would require the greatest degree of new development, with a high-capacity inn and campground, housekeeping cabins, a riding stable, boating tours with associated dock facilities, jeep transportation, and employee housing together with associated utility systems and maintenance facilities. On a practical level, planners justified this high level of development by the greater accessibility of Santa Cruz Island, especially its eastern end, which would likely be acquired by the Park Service long before The Nature Conservancy portion of the island. On the other hand, this proposal seemed to conflict with the legislative requirement that all of the islands be administered on a low-intensity basis. The Resource Protection Case Study never addressed this apparent contradiction, and its authors did not seem to see it as a problem, possibly because their interpretation of the range of appropriate development was consistent with Acting Director Tobin's and with the County's Coastal Land Use Plan. But it was this level of development that alarmed members of the public at the early GMP workshops during the summer of 1982.

Following review of the eight land protection case studies, the Department of the Interior issued guidelines for preparation of land protection plans for all parks containing private inholdings. To prepare such a plan for Channel Islands, further access to these properties was essential. Once again believing that this process was in their interest, the Vails and the Gherinis granted permission, though only for a few weeks' duration. A multi-disciplinary team of NPS scientists, managers, and planners was allowed to visit Santa Rosa Island in December 1982 and April 1983, and East Santa Cruz Island in April 1983. The team concentrated its efforts on areas of sensitive resources and probable visitor use to provide direction for both the land protection plan and the general management plan.[524] Superintendent Bill Ehorn arranged to use helicopters which allowed researchers to be dropped off at the top of a mountain, work his or her way down to the bottom, and then be picked up and immediately transported to the next survey site. Everybody who witnessed the operation was impressed.[525]

As a result of these studies, the National Park Service prepared a detailed Land Protection Plan and released a first draft in October 1983 and a final version in February 1984.[526] Among other things, it reiterated the principal conclusion of the earlier Resource Protection Case Study that acquisition of the private lands was the most desirable and effective option. The question was not whether the lands should be purchased by the Park Service, but how. The LPP proposed implementing a schedule of staggered acquisitions based on areas with resources of highest priority to the National Park Service. These had been accurately determined by the recent on-the-ground surveys. First, 10% of Santa Rosa Island would be purchased, then 45% of East Santa Cruz, then 80% of Santa Rosa, then 55% of East Santa Cruz, and finally the remaining 10% of Santa Rosa. The advantage of this bewildering method was that it allowed the Park Service to begin acquiring land immediately with the limited funds it had available. Congress had authorized slightly more than $30,000,000 for acquisition under the park bill, and to date only

524 NPS, GMP, 1985, 11; Superintendent's Annual Report for 1982 (May 25, 1983), CINP Archives, Cat. 13117, Box 1, Folder 6.

525 Gary Davis interviewed by David Louter, June 11, 2007. Transcript on file at CINP Archives, Cat. 30177.

526 DOI, Channel Islands National Park, California: Land Protection Plan (Ventura, CA: NPS, CINP, 1984). (Hereafter referenced as LPP, 1984).

about $3,000,000 had actually been appropriated. Even though the final appraisals had not yet been completed for either of the islands, the LPP authors knew that, individually, these appropriations would fall well short of what would be needed to fully acquire any one of the private inholdings.[527] This "phased acquisition" divided the inholdings into parcels that could be acquired as money became available.

However, that acquisition approach had significant disadvantages too. As the report acknowledged, the total cost to the Park Service might be substantially increased as a result of severance damage—costs incurred by the private landowner as a result of dividing his property—or by increases in the appraised value of the land, stimulated by the existence of the park itself. But the most profound disadvantage was opposition to the plan by the private landowners, all of whom preferred that the Park Service acquire their properties by full fee purchase, executed in a timely manner. Further complicating these objections, the Vail and Vickers families of Santa Rosa Island legitimately pointed out that the phased acquisition proposed in the LPP placed the purchase of other private parcels before that of their own property, contrary to the intent of Congress as established in the park legislation and in their personal interests. They lodged a formal protest through their attorney, William C. Kelly Jr., arguing that this plan would constitute a violation of sec. 202(c) of the park enabling act that stipulated acquisition of Santa Rosa Island must take priority over that of any other private inholding.[528] This effectively stopped implementation of the phased acquisition method, at least as it was proposed in the LPP, but it did not change the basic conclusion of the report's authors that the agency needed to acquire, in fee-simple, both Santa Rosa and East Santa Cruz Islands.

The Park Service concluded that the federal government needed to acquire the remaining private inholdings in the park as soon as possible. The only exception was Carey Stanton's ranch on Santa Cruz Island, which had been sold to The Nature Conservancy in 1978, and could only be acquired with the consent of TNC in the event that the property was undergoing or was about to undergo a change in use that would be inconsistent with the park's enabling act. Formal negotiations with the other private landowners, Vail & Vickers and the Gherinis, could not begin until formal appraisals had been completed on their lands. These were underway even as the planning studies were being conducted, but the earliest would not be completed for another year. In the meantime, the GMP was completed in April of 1984, shortly after a revised Land Protection Plan, and fully approved in 1985. The final GMP carefully avoided the high levels of development that had caused so much concern during preliminary discussions and proposed instead a minimum requirements alternative. This emphasized management on a limited-entry, low-intensity use basis, consistent with the park enabling legislation. Limited development would be allowed at only three visitor entry points—Bechers Bay and Johnsons Lee on Santa Rosa Island, and Scorpion Harbor on East Santa Cruz where historic development already existed. Otherwise, the islands would be managed to provide a wilderness-like experience for small numbers of visitors, with the restoration and preservation of natural biotic associations emphasized. Because the adverse environmental consequences of this proposed plan were

527 Superintendent's Annual Report for 1984 (March 14, 1985), CINP Archives, Cat. 13117, Box 1, Folder 5.

528 At that time, William Kelly worked for Latham, Watkins & Hill. Previously, Kelly served as an executive assistant to the Secretary of the Department of Housing and Urban Development from 1975 to 1977. He joined Latham in 1977 and retired from the office in 2003. He was not, as the media occasionally stated, an assistant to the Secretary of the Interior. Superintendent's Annual Report for 1983 (February 29, 1984), Ibid; William C. Kelly Jr. to William H. Ehorn, June 21, 1983, CINP Superintendent's Files, Folder "SRI."

anticipated to be minimal, a Finding of No Significant Impact was determined for NEPA compliance purposes, and no environmental impact statement (EIS) was required.

The plan also addressed marine resources surrounding the islands, where it proposed that nonconsumptive use should be emphasized. The National Park Service already believed that some fisheries were being depleted below levels of sustainable yield. However, because the agency had no authority to enforce regulations to improve the protection of these resources, the proposed plan recommended seeking alternative measures to achieve the desired results. These should include, at a minimum, the designation of state ecological reserves around all of the park islands. At that time, reserves existed only around San Miguel, Anacapa, and Santa Barbara Islands. Not only would this allow greater protection of marine resources, but it would also help the state protect culturally significant archeological resources and shipwrecks on the ocean floor within the three miles of each island. The LPP, which was inserted as an appendix in the GMP, recommended designation of the park waters as state marine preserves. Park officials bemoaned the enabling act's prohibition of direct acquisition of the state-owned lands which would have afforded the most effective and least complex means of protection.[529]

The question of wilderness designation was addressed only briefly in the GMP. In accordance with the park enabling legislation, a wilderness suitability review had been conducted shortly after the establishment of the park. The review concluded that substantial portions of Anacapa and Santa Barbara Islands were immediately eligible for wilderness status or could be made eligible with only minimal modifications in infrastructure and operations. However, Santa Rosa and Santa Cruz Islands failed to meet wilderness criteria because of continuing private ownership and the presence of domestic livestock and exotic grazing animals. The extent of resource disturbance was thought to be so great, and the potential effects of removing both ranching and exotic species to be so unpredictable, that it would be necessary to conduct extensive research and management programs during the early phases of recovery. This would require the interim retention of access roads and airstrips, thus precluding immediate wilderness designation. As a result of these considerations, further wilderness studies and recommendations for all of the islands were deferred until these restoration objectives could be met. In the meantime, predominantly natural areas would be managed as wilderness to the extent feasible so that later designation could occur once intensive resource management efforts were no longer needed.[530]

THE SALE OF SANTA ROSA ISLAND

The biggest and most complicated land acquisition for Channel Islands National Park was Santa Rosa Island owned by the Vail & Vickers Company.[531] A great deal of controversy followed the ranchers' sale of the island to the federal government in late 1986 and the arrangements associated with that sale. By 1985, the government had completed its formal appraisal of Santa Rosa Island, estimating its value at $29,500,000. This was considerably higher than the original

529 NPS, Land Protection Plan, 1984, 46-47.

530 NPS, GMP, 1985, 15.

531 Technically the "Vickers Company Ltd., James Vail Wilkinson, Nathan Russell Vail, Margaret Vail Woolley, and Alexander Lennox Vail" owned the island and Vail & Vickers Company managed the ranch and other operations. NPS solicitor Barbara Goodyear communication to Lary Dilsaver, November 13, 2019.

estimate of $19,000,000 made nearly six years earlier during the congressional hearings on the park bill and was more acceptable to the Vail & Vickers Company. The additional acquisition funds provided that year allowed negotiations with the company to begin soon afterwards. Although Vail & Vickers wanted to expedite the sale as quickly as possible, questions remained concerning the details of the proposed transaction.

The congressional deliberations and the text of the park's enabling legislation, Public Law 96-199, offered Vail & Vickers two options: a Reservation of Use and Occupancy or a "lease agreement." A Reservation of Use and Occupancy is a property that has been purchased by the National Park Service but with a stipulation that allows the former owner to continue using it for a specified length of time. A retained *right* of occupancy is specified in the deed and a negotiated charge is deducted from the payment to the former owner. [Authors' emphasis]

A "leaseback," or just "lease," was defined in the NPS *Management Policies 1978* that stated agency rules and practices:

> *In the case of any property acquired by the Secretary pursuant to this subchapter with respect to which a right of use and occupancy was not reserved by the former owner pursuant to this subsection, at the request of the former owner, the Secretary may enter into a lease agreement with the former owner under which the former owner may continue any existing use of such property which is compatible with the administration of the park and with the preservation of the resources therein.*[532] *[Authors' emphasis]*

The significance of this choice is that the owner receives the full price of the sale from the US government and can only request a leaseback and pay a fair market value rent for the duration of the lease for continuing to use the land as before.

Negotiations were carried on through confidential meetings between the Lands Division of the Western Regional Office, the Department of the Interior Office of the Solicitor, and Vail & Vickers through their attorney. The Lands Division carried out extensive planning and calculated several duration options for the leaseback. Throughout this process, park Superintendent Bill Ehorn remained in touch with Al and Russ Vail, who respected him as a friend and relied on his advice. Ehorn recommended to the Vail brothers that they accept an RUO for the residential core of the ranch, but negotiate a lease for the rest of the island. He assured them that the consequences, as far as their ranching operation was concerned, would be the same, but they would benefit in the short-term by receiving a smaller deduction from the full appraised value of their property than for a reserved right on all of the island. According to an appraisal prepared by the NPS Lands Division in May of that year, the difference amounted to just over $3,500,000. In other words, the Vails would receive only $26,000,000 if they retained an RUO for the entire island but $29,500,000 if they retained only the 7.6-acre ranch.[533]

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532 NPS, "Management Policies 1978," DOI, US General Printing Office, 0-721-256/720, IX-4.

533 Jack MacDonald, chief appraiser, Western Region, to Chief, Division of Land Resources, Western Region, May 29, 1986. CINP, Central Files, SRI Binder No. 1, Section C.4.d. MacDonald estimated the value of a 25-year retained estate for both the cattle and hunting operations at $3,502,000; Bill Ehorn telephone interview with Lary Dilsaver, May 30, 2019.

On December 29, 1986, the Vail & Vickers Company sold Santa Rosa Island to the National Park Service for $29,580,250.[534] In addition, the Company relinquished its right to any RUO over the entire island but retained one of approximately 7.6 acres at Bechers Bay. This allowed family members residential use of the main ranch area for a period of 25 years, along with reasonable access to the property by means of the pier, the airstrip, and associated roads. At the request of the Vail & Vickers attorneys, Latham and Watkins, the sale was rushed through even though the terms of a lease agreement had yet to be established. This was done to avoid an additional tax burden resulting from changes to the capital gains rate with the Tax Reform Act of 1986 that were scheduled to go into effect at the beginning of the following year. The Vail & Vickers attorneys argued that the National Park Service had a responsibility to help their clients avoid this deadline, noting that Congress had instructed the Park Service to acquire Santa Rosa Island "as expeditiously as possible" after March 5, 1980, but more than six years had already passed since that date and the acquisition still had not been made.[535] The sale was recorded just two days before the end of the year. Although the attorneys for both sides were forced to work through the holiday week, Vail & Vickers saved several million dollars in taxes.[536]

Negotiating a Lease or Special Use Permit (1987)

The National Park Service gave the ranchers a three-month lease to continue its operations after the sale while negotiating for a longer-term lease, but it soon stretched to nine months as the Vail & Vickers Company sought the most beneficial deal. This suggests that Ehorn and his superiors were willing to support the ranchers' operations. Ehorn later explained that he believed that the laudatory comments about the ranching operations by legislators six years earlier were essentially a directive to continue to allow ranching on the island.[537] Western Regional Appraiser Jack MacDonald, Ehorn, and Al and Russ Vail had surveyed the island on April 17, 1986 and Macdonald prepared an "appraisal supplement" for Vail & Vickers that estimated annual fair market rental values for a lease agreement at $313,500 per year for the cattle operation and $100,000 per year for commercial hunting. This figure for the ranch assumed that the average daily inventory of cattle over the course of a year would not exceed 5,500 head and calculated their rental value based on an estimate of $6.79 per animal unit month (AUM). The animal unit month is a standard measure of stocking rates used by rangeland managers and is defined as the amount of forage needed by each "animal unit" grazing for one month. The typical animal unit is defined as a mature 1,000-pound cow. The Park Service thought a rent based on $6.79 per AUM was reasonable when compared with average mainland values that its research suggested could range between $8.00 and $10.00 per AUM. Allowing for the additional transportation costs associated with the remote island location, the NPS appraisal was believed to fall within that range.[538]

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534 Ticor Title Insurance Company, "Warranty Deed," recorded December 30, 1986, in "Santa Rosa Island Administrative History," CINP, Central Files, SRI Binder No. 1, C.1. a.

535 William C. Kelly Jr., Latham and Watkins, to Edward R. Haberlin, Chief of Land Resources, Western Regional Office (hereafter WRO), December 11, 1986, CINP Central Files, SRI Binder Binder 2, C.4.g.

536 Edward R. Haberlin, Chief of Land Resources, WRO to Jill Slater, Latham and Watkins, December 18, 1986, Ibid.

537 Bill Ehorn telephone interview with Lary Dilsaver, May 30, 2019.

538 William M. White, Chief Appraiser, NPS, "National Park Service Appraisal Review: Estimated Fair Market Rental, Tract 102-01 (Vail & Vickers), Santa Rosa Island, Channel Islands National Park, Santa Barbara County, California," July 16, 1986, CINP Central Files, SRI Binder 2, C.5.c. The cost of transportation between Santa Rosa Island and the mainland was estimated at $120,000 per year, or about $2.22 per AUM. This was deducted from the rental calculations to arrive at the figures quoted above.

In case this sum appeared onerous, MacDonald noted that Vail & Vickers would also benefit from the National Park Service assuming maintenance costs for the airstrip, the pier, and some of the roads as a condition of sharing operations on the island. The Company responded through their attorneys that the cost was "far in excess of what can be supported today by a ranching operation."[539] Interestingly, there is little indication that the deer and elk of the hunting operation were initially figured into these calculations, despite NPS Director Whalen's statement during the congressional hearings that hunting would not be allowed on NPS-owned property.[540]

Vail & Vickers sought support for a much cheaper lease while insisting that it was for a limited period so they could phase out its operations. In response to an appeal from the Vails, Senator Pete Wilson wrote to Interior Secretary Donald Hodel, drawing his attention to their concerns and requesting that the Park Service be asked to re-evaluate its appraisal.[541] Senator Wilson also suggested that it was in the best interest of the government to see Vail & Vickers continue cattle ranching on Santa Rosa Island. Not only was the cattle operation, in his opinion, "a crucial interpretive and management resource," but he also pointed out that the Park Service would incur considerable costs if it had to assume full responsibility for managing the island and relocating Vail & Vickers' property and their tenants. During the year of negotiations, Superintendent Ehorn wrote to the *Santa Barbara News-Press* that "Santa Rosa Island. . .is still being used as a working cattle ranch by its recent owners, Vail & Vickers, and they have the option of leasing back the entire island to continue their ranching operation *for several additional years*" [authors' emphasis].[542] Congressman Lagomarsino also wrote on behalf of Vail & Vickers requesting they be permitted to ". . .continue operation of the cattle ranch on approximately 51,000 acres for a *five to ten-year period"* [authors' emphasis]. The Park Service responded to the political pressure from Wilson and the comments by Ehorn and Lagomarsino and initiated a review of its original appraisal.[543]

As negotiations continued, Bill Ehorn suggested to Al and Russ Vail that they could negotiate a special use permit (SUP) for the rest of the island. Regional Lands Officer Jack MacDonald defined a SUP as it would be available to Vail & Vickers:

> *The proposed Special Use Permit standard conditions are very restrictive in comparison with open market lease conditions. The Use Permit authorizes the use of the land for only a beef cattle ranch and commercial hunting operation. The use privileges are subject to the supervision of the Superintendent. . .The special and more restrictive terms and conditions of the Special Use Permit require adjustment of the indicated lease rent. The critical permit conditions which require adjustment are:*

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539 Latham and Watkins, attorneys to Ed Haberlin, December 11, 1986, CINP Central Files, SRI Binder 2, C4g; Kate Roney Faulkner, "Bringing Santa Rosa Island into Channel Islands National Park: the written documents 1979–1987," *Western North American Naturalist* 78(4) 2018, 930–941.

540 "Hearings Before the Subcommittee on Parks, Recreation, and Renewable Resources, of the Committee on Energy and Natural Resources," United States Senate, 96th Cong., 1st. sess., July 19, 1979.

541 Senator Pete Wilson to Secretary of the Interior Donald P. Hodel, January 28, 1987, CINP, Central Files, SRI Binder 1, C.6.b.

542 William Ehorn to *Santa Barbara News-Press*, March 15, 1987; William Ehorn to Stanley Albright, January 25, 1994, copy courtesy of Marla Daily, Santa Cruz Island Foundation.

543 Robert J. Lagomarsino, "Notes of presentation at February 10, 1987 media event announcing the acquisition of Santa Rosa Island by the NPS." Robert J. Lagomarsino Collection: Federal Collection, 1974-1992. Collection Number: 1/92. Broome Library, California State University Channel Islands; Faulkner, "Bringing Santa Rosa Island into Channel Islands National Park," 937.

> *1) Termination provisions, Island Operation Management, Resource Protection/Preservation, and Park use, and 2) Permit privilege compared to lease contract rights.* [544]

Ehorn assured them that their operations would be preeminent on the island throughout a five-year SUP. In a 2019 interview, Ehorn stated that he was so happy to gain the island for the park and make it immediately available to visitors that he believed the agency could allow a limited duration of ongoing ranching and hunting while developing infrastructure and interpretation for the complete takeover at the end of the permit.[545] In addition, the money earned through permit fees would remain with Channel Islands and could be reinvested in park operations, resource protection, and facilities development on Santa Rosa Island itself.[546]

Vail & Vickers expressed an interest in the SUP option if the cost could be reduced. By September 1987, the National Park Service had prepared a new proposal that sought a permit that would be accepted by the ranchers and remove the pressure their political allies had brought to bear. It still entailed the protection of threatened natural resources and provisions for public visitation, both of which could conflict with the operations of a private cattle ranch and a hunting concession. In consideration of these objections, the new appraisal reduced the proposed assessment by more than half to $3.00 per AUM. This would result in an annual rent of approximately $162,000, though the figure could vary depending on the number of cattle actually stocked in a given year.[547] This revised estimate took into account a recently-completed grazing rental survey prepared by independent appraiser Warren Reeder for the National Park Service. The Reeder Report looked at comparably sized cattle ranches on nearby mainland locations to establish an average base AUM rate of about $6.50, from which the proposed rate for Vail & Vickers was then factored by subtracting costs uniquely associated with the island operation.

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544 Jack MacDonald to Chief, Division of Land Resources, Western Region, September 9, 1987, CINP Archives, Acc. 304.4, Cat. 10145, Folder 20, "SRI Acquisition 85-98"; NPS Solicitor Barbara Goodyear later explained, "A special use permit grants no property interest to the permittee. It is a mere license to use property that is revocable by the permitting entity at any time. No compensation is due for its termination. There is also no guarantee that subsequent permits would be issued." Barbara Goodyear e-mail to Lary Dilsaver, November 20, 2019.

545 Bill Ehorn telephone interview, May 30, 2019; Bill Ehorn interviewed by Laura Kirn and Ann Huston, November 6 and 7, 2019.

546 Ehorn telephone interview with Lary Dilsaver, May 30, 2019.

547 Jack D. MacDonald, Chief Appraiser, WRO, to Edward Haberlin, Chief, Division of Land Resources, WRO, National Park Service, September 9, 1987, Ibid., SRI Binder 3, D.2.a.

Figure 5-1. Foreman's house, barns, and pier at Vail & Vickers ranch on Santa Rosa Island, October 2017.
Source: Photograph by L. Dilsaver.

Although $3.00 was considerably less than the base range determined by the Park Service one year earlier, it still seemed high to Vail & Vickers. They had a separate appraisal prepared by their own advisor, James Nofziger, challenging the Reeder Report and the estimates the Park Service had derived from it. This rebuttal was submitted to the park in early December, necessitating further negotiation of the proposed rent before any permit could be finalized. Ultimately, Chief of Operations Tim Setnicka, who was not an appraiser, and the Vails agreed on a rate of $1.48 per AUM, resulting in an annual fee of approximately $80,000.[548] This was scarcely a fourth of the estimated fair market value as originally determined by NPS appraisers, and critics such as the National Parks and Conservation Association (NPCA) later argued that the difference represented a substantial federal subsidy for cattle ranching on public park lands.[549] The Park Service agreed to the terms, and a five-year renewable SUP was finally signed on December 29, 1987, exactly one year after the sale of the island.[550]

The exact details of what Ehorn told Vail & Vickers through the year of negotiations remain unclear. Later, numerous media sources reported that Ehorn had verbally informed the Vails that he expected the five-year SUP terms would be renewed until the RUO for the residential complex that Vail & Vickers had chosen ended. Ehorn strongly denies that he ever promised the

548 Superintendent's Annual Report for 1987 (May 9, 1988), CINP Archives, Cat. 13117, Box 1, Folder 8; "Memo," Chief of Operations to the Superintendent, CINP, March 2, 1993, CINP, Central Files, SRI Binder 3, Sec. D.1.c.

549 George Wuerthner, "Gone Astray," *National Parks* (November/December 1997): 23-25. The NPCA actually claimed that the difference represented as much as a tenth of the original value, but this is true only if maritime transportation costs—the single most significant factor differentiating island ranching from its mainland counterparts—are excluded from one side of the equation but included on the other, resulting in a biased comparison.

550 DOI, NPS, "Special Use Permit No. WRO-8120-2600-001," December 29, 1987, CINP, Central Files, SRI Binder 3, Sec. D.1.a.

Vails a 25-year operation on the entire island and shook hands on the deal as the local press claimed.[551] This debate was the crux of all the controversy that ensued. If Ehorn had promised the Vails that they would be able to continue ranching for the duration of their 25-year RUO on the ranch site, it would have had no basis in law because nothing was ever written down and the superintendent did not have the authority to represent the Park Service in making such a broad agreement.[552] The Vails and their supporters in the local media maintained that, as old-fashioned cattlemen, they were accustomed to finalize agreements on an unwritten basis and saw nothing unusual in placing their trust in a man they respected.[553] At the same time, they also insisted that the will of Congress supported their interest in continuing the ranch for the duration of their active lives.

One other incident has a bearing on these different versions of the story. On October 25, 1987, the *Chicago Tribune* quoted a Channel Islands employee (possibly naturalist Mary Valentine who was cited elsewhere in the article) saying, "Negotiations continue with the Vail and Vickers Co., which previously owned the island and retains the right to ranch it for up to 25 years." This would have been the case if the ranchers had signed a reservation of use and occupancy or a lease and paid the required amount. As the negotiations entered their final stages in late October, this seasonal interpreter stated that the ranchers had a 25-year "right" to continue operations. That suggests that this duration was expected by the some of the park's personnel at that time. But the ranchers never had a "right" to an SUP and when they rejected the lease option, they lost even its minimal contractual protection.[554] Still, the outrage of Vail & Vickers and their claims of being betrayed by the Park Service leads to speculation on how they got the idea that they could ranch and hunt for 25 years after the sale.

Managing a Park on a Ranching Island

The special use permit allowed the Vails to continue ranching much as they always had done. They were allowed to run cattle over nearly 53,000 acres, the vast majority of the island. The only area excepted from permitted grazing was the 7.6-acre reservation of use and occupancy. An earlier, cursory study by Gary Davis and Bill Halvorson had recommended a number of other parcels to be off-limits to grazing including Johnsons Lee where park operations were to be centered, two parcels of Torrey pines, three oak woodlands on Soledad Peak, the caliche area at Sandy Point, a small lagoon between Skunk Point and East Point, and three dune areas extending from Cluster Point to just north of Bee Canyon along the southwest shoreline. However, these restrictions did not make it into the first SUP or any subsequent ones. The park also promised to minimize use of the roads from Johnsons Lee to Soledad Peak to access the oak woodlands, and from the ranch pier at Bechers Bay to the Torrey pine forest for public visitation. In addition, the ranchers were allowed to dictate priority use of the pier for their cattle operation. Although the barns, corrals, and pier were outside Vail & Vickers reservation

551 Bill Ehorn, comments to Laura Kirn and Ann Huston, November 5, 2019.; Faulkner, "Bringing Santa Rosa Island into Channel Islands National Park," 2018, 930–941.

552 Thus, Chief of Resources Kate Faulkner told *Los Angeles Times* reporter Hilary MacGregor, "We are aware of no agreement between Vail & Vickers and the Park Service regarding continued use of the land." In the same article, Superintendent Setnicka disagreed with Faulkner, claiming that there was an understanding that the cattle operation would continue until 2011. Hilary MacGregor, "Island Squeeze," Los Angeles Times, May 25, 1997; Ehorn later corroborated the latter interpretation. Bill Ehorn telephone interview, May 30, 2019.

553 Nita Vail, interviewed by Timothy Babalis, September 25, 2009.

554 Terry Young, "Santa Rosa Island a rare California Adventure," *Chicago Tribune*, October 25, 1987.

of use and occupancy, the ranchers objected to visitors off-loading on the pier and walking through the ranch, potentially disturbing their ranch operations. In effect, this occasionally prevented the National Park Service from using the pier and forced visitors to off-load on the beach instead.[555]

Rent was to be paid monthly to the National Park Service, based on a stocking animal number not to exceed 5,900 head, a slight increase from the total originally proposed one year earlier. The SUP provided for renegotiation of the rental fee through a panel of three assessors, one each appointed by the permittee and the National Park Service, with the third chosen by the assessors themselves. This process could be initiated by a protest of Vail & Vickers if they believed rents no longer reflected fair market value.[556] In fact, this never happened. In 1993, Superintendent Mack Shaver gave responsibility for renewing the SUP to Chief of Operations Tim Setnicka who then reduced the rate to $1.00 per AUM.[557] Deer and elk, which provided a substantial supplemental income to the Vails through hunting leases, were not originally factored into the AUM limits. Later, they were included but that did not reduce the total allowable cattle units per year.[558]

Figure 5-2. Vail & Vickers continued using horses, homemade wrangling equipment, and traditional techniques to herd cattle on Santa Rosa Island.

Source: Photograph by Bill Ehorn, date unknown. CINP Archives, Acc. 343, Cat No. 9946.

555 Kate Faulkner comments to Lary Dilsaver, May 20, 2019.

556 DOI, NPS, "Special Use Permit No. WRO-8120-2600-001," December 29, 1987.

557 Kate Faulkner comments, May 20, 2019.

558 "Memo," Chief of Operations to the Superintendent, Channel Island National Park, March 2, 1993, CINP, Central Files, SRI Binder No. 3, D.1.c.

The Soil Conservation Service confirmed the stocking regimen allowed by this permit, which remained more or less unchanged from before the sale of the island. After visiting Santa Rosa Island in the spring, District Conservationist Lynn Brittan wrote that the island "appears to be grazed carefully, even in this year of below normal rainfall." Optimal utilization of the island would require additional fencing, water development, and cattle movements but would not be cost effective. Brittan also observed that "the forage on Santa Rosa Island is a valuable resource and has been carefully managed over the years," but recommended that a resource management plan be drafted with an emphasis on grazing practices.[559]

The National Park Service, with the concurrence of the Vail & Vickers Company, complied with this advice and contracted specialists from the University of California system to prepare a range management plan "... for the purposes of continuing the enhancement of the rangelands and to accommodate the grazing stock and revegetation of grasslands."[560] The plan, completed on April 1, 1992, included the following stipulations: grazing would be allowed year-round; the cattle inventory would not exceed 4,500 AUMs per year; other elements might be considered that were consistent with "good range management"; stray livestock would be promptly removed from any of the 11 reserved NPS parcels [which were never adopted]; and salt would "be placed in a location where water supplies will not be affected." These criteria reflected rangeland values at the expense of the natural habitat. Although the range conservationist also implemented a water quality monitoring program; park management generally gave priority to commercial ranching over natural resource preservation.[561] The park's resource management staff, visiting scientists, and environmentalists complained that this conflicted with the mission of the Park Service itself. To these observers, the park's solicitous attitude toward the ranchers was not only inappropriate but destructive, especially since the National Park Service now owned Santa Rosa Island.

With completion of this sale, the Park Service began moving staff to Santa Rosa Island in May of 1987 and established a small operations area near the abandoned US Air Force station at Johnsons Lee. The GMP identified Johnsons Lee as a site for park operations because Vail & Vickers insisted that the National Park Service remain distant from the ranch headquarters operation at Bechers Bay. The latter was one of the concessions to the ranchers that later resource managers, environmentalists, and other critics decried. The National Park Service owned the island but allowed the former landowners to insist that their operations should be paramount in cases where they clashed over location and schedule with park activities.

The rudimentary Park Service facility consisted of four travel trailers that were placed on existing cement pads approximately 50 yards away from most of the abandoned military buildings. Both water and fuel had to be brought to the site requiring difficult and expensive transportation. The park received a budget increase in 1987 and 1988 to fund operations on Santa Rosa Island.[562]

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559 Lynn Brittan, District Conservationist, Soil Conservation Service, to Edward Haberlin, Chief, Division of Land Resources, Western Regional Office, NPS, April 15, 1987, CINP, Superintendent's Files, Folder SRI.

560 James W. Bartolome and W. James Clawson, Range Management Plan, Santa Rosa Island (Ventura, CA: CINP, 1992).

561 Ibid., Superintendent's Annual Report for 1993, April 19, 1994, CINP Archives, Cat. No. 13117, Folder 8. The water quality monitoring program was set up with technical assistance from the Park Service's Water Resources Division, the state's Regional Water Quality Control Board, and the US Forest Service.

562 DOI, Special Study/Environmental Assessment, Demolition/Restoration of Abandoned Military Facilities, Johnsons Lee - Santa Rosa Island, Channel Islands National Park, California (Denver, CO: NPS, Denver Service Center, 1985); Superintendent's Annual Report, May 9, 1988, CINP Archives, Cat. 13117, Box 1, Folder 8.

Figure 5-3. Johnsons Lee on Santa Rosa Island was a short-lived US Air Force base from 1951 to 1963. As the initial site for NPS operations on the island it proved completely unsatisfactory.

Source: Photographer and date unknown. CINP Archives, Acc. 217, Cat. 2737.

Beginning Memorial Day weekend, May 23–25, 1987, the park opened Santa Rosa Island to public visitation. Because of the extensive regional and local media coverage, interest in visiting the island was great from the beginning. In response to this demand, the concession boat operator, Island Packers, began running seasonal public trips to Santa Rosa in July. However, visitation was strictly controlled due to a number of concerns ranging from visitor safety and the desire to avoid interfering with ranching operations. Persons wishing to go to Santa Rosa Island had to obtain a free-landing permit, meet the island staff person, and remain in his or her company for the duration of their visit. Visitors could select one of two areas to land, either at Officer's Beach near Johnsons Lee for a walk to nearby canyons and coves or near Bechers Bay for a walk to the Torrey pine forest. During this first visitor season, the Bechers Bay alternative proved the most popular. This was bolstered by the fact that, during the summer months, average ocean swell conditions at Bechers were much more conducive to landing than those at Johnsons Lee. As a result, NPS personnel stationed at the latter location had to drive to Bechers Bay on the majority of days that visitors landed. Because the distance between the two sites was 13 miles over a primitive, unpaved road, the trip averaged one hour each way. Given the preference that most visitors had for Bechers Bay, the park planned to rehabilitate the pier, for which $40,000 had already been appropriated.[563]

563 Superintendent's Annual Report for 1987 (May 9, 1988), CINP Archives, Cat. No. 13117, Box 1, Folder 8.

Figure 5-4. A Torrey pine (*Pinus torreyana*) on the north slope of Santa Rosa Island. The species only occurs in one other small area near San Diego.

Source: Photograph by L. Dilsaver, October 2017.

THE CHUMASH LAWSUIT

Santa Rosa Island clearly dominated the first decade of the new national park. Its acquisition in 1986, subsequent negotiations with Vail & Vickers over coordinating management, inventory and assessment of natural resources, and the construction or rehabilitation of new facilities consumed much of the park's energies and budget for years. During all of this activity, relatively little attention was given to the complex cultural history of the island. An intimation of this troubled history was given by an unusual clause inserted into the deed of sale as recorded on December 30, 1986. The conveyance of this title was made contingent on no further action being taken by the courts in a suit that had been initiated more than two years earlier by plaintiff Frances Herrera on behalf of the Brotherhood of the Tomol, a Chumash maritime organization. That suit challenging the existing ownership of the island had been denied by successive lower courts, but Herrera had petitioned the US Supreme Court for a new hearing at the time of the sale to the National Park Service. The warranty deed noted that title to Santa Rosa Island would automatically revert to the previous owner, the Vail & Vickers Company, if the Supreme Court agreed to hear Herrera's petition by March 31, 1987. The Supreme Court ultimately denied this

petition, so nothing more came of the matter, but the history behind this case says a great deal about local Chumash feelings and their perspective on the Channel Islands.[564]

Frances S. Herrera, a Santa Barbara Chumash woman commonly known as Chunie, filed the class action lawsuit on behalf of the Brotherhood of the Tomol on June 7, 1984, claiming that these descendants of the Island Chumash remained the legitimate owners of Santa Cruz and Santa Rosa Islands. The defendants in the case were the private landowners, whom the plaintiff accused of unlawful trespass. The underlying basis for these assertions was Chunie's argument that her ancestors, the Island Chumash, had never legally relinquished the islands to the Spanish authorities who seized them in the 18th century. Therefore, aboriginal land title remained intact and was inherited by the Republic of Mexico, which succeeded Spain in 1821. Because conveyance of land grants to the Carrillo brothers and Andrés Castillero in 1839 could not extinguish these aboriginal titles, these grants had no legal basis and were never legitimate. At least one US court agreed with this assertion in principle. The plaintiff further argued that the Treaty of Guadalupe-Hidalgo, which had concluded the war between the United States and Mexico in 1848, transferred existing aboriginal land titles to the United States and thereby ensured their legitimacy down to the present time. In recognition of these claims and various damages committed against them, the plaintiff asked for $600,000,000 in compensation as well as penalties and numerous declaratory judgments.[565]

US District Judge David W. Williams, who heard the case in November 1984, found fault with the plaintiff's fundamental assertion regarding the durability of aboriginal title following Spanish conquest. Williams found instead that "Spain's discovery of California and its conquest of the Indians conferred on it the exclusive right to extinguish the Indians' aboriginal occupancy rights." However, the decisive point for Williams was the Chumash failure to present their claims in a timely fashion. In the court's opinion, these claims should have been presented before the Lands Commission of 1851, which had been designed to resolve disputed or ambiguous titles in the aftermath of the Mexican-American War. If the Chumash had possessed a legitimate title under Mexican law, their failure to bring this forward while the Commission was active amounted to *de facto* abdication of their title. As a result of this finding, Judge Williams agreed to the defendants' motion to dismiss the suit. This decision was upheld by the Ninth Circuit Court of Appeals in January 1986, and by the Supreme Court through its denial of a rehearing.

This was not the first time that existing title over the Channel Islands had been challenged. In 1946, a Mexican delegation prepared a claim against the United States government for all eight of the California Channel Islands as well as the Farallon Islands off the coast of San Francisco. This claim was based on the ambiguity of the Treaty of Guadalupe-Hidalgo itself, which failed to mention specifically any islands in its cession of territory north of the treaty boundary to the United States. The claim was never taken seriously, and US courts generally understood the islands to have been implied without having to be named.[566] The Chumash suit nevertheless renewed the issue in a brief diversion from its principal argument. In its response, the court affirmed existing opinion that the Treaty of Guadalupe-Hidalgo had only been concerned with

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564 Ticor Title Insurance Company, "Warranty Deed," recorded December 30, 1986, CINP Central Files, SRI Binder No. 1, Sec. C.1.a.

565 *United States of America ex. rel. Chunie (Frances S. Herrera), and all Chumash descendants similarly situated vs. Marie Ringrose* [et al.], Civil No. 84-4144-DWW.

566 J. N. Bowman, "The Question of Sovereignty over California's Off-Shore Islands," *Pacific Historical Review* 31 (3) 1962, 291-301.

defining the boundary between the United States and Mexico, and the fact that it did not specifically mention any islands was incidental. All lands, including islands, lying north of the negotiated boundary were understood to belong to the United States, while lands south of it were Mexico's. The same argument was used to deny the Chumash claim to submerged lands within the channel, though in this case the court also cited the US Supreme Court decision of 1978 confirming ownership of these lands by the State of California. Judge Williams observed that the 1978 decision had implicitly affirmed the conveyance of the islands by the Treaty of Guadalupe-Hidalgo to the United States, else the United States would not have been able to cede their contiguous submerged lands to California, as it did in 1953 with the Submerged Lands Act.

CAREY STANTON AND SANTA CRUZ ISLAND

The 1984 Land Protection Plan only briefly mentioned the western nine-tenths of Santa Cruz Island, and tactfully avoided saying anything about acquiring this property, which at that time belonged to Carey Stanton and The Nature Conservancy. There is little question that the Park Service hoped to eventually own all of Santa Cruz Island, despite Carey Stanton's strong opposition to this idea. NPS hopes may have been bolstered by memories of Edwin Stanton's two overtures to sell his ranch to the Park Service decades earlier.[567] Following the partition of Justinian Caire's original ranch and its distribution among his several heirs, the five parcels comprising the western portion were sold as a unit in 1937 to Edwin L. Stanton. The sale, which came to $750,000, included approximately 54,500 acres of land, the schooner *Santa Cruz*, and a substantial number of sheep and cattle, though most of the former had become feral and the latter were considered inferior in quality. Edwin Stanton was a prominent Los Angeles businessman who had made his money in oil. He was founder of the Stanton Oil Company, which owned wells on Signal Hill, one of the earliest oil fields in Southern California. Later, he also established the Stanton Axle Works that subcontracted to the Chevrolet Auto Manufacturing Company.[568]

After purchasing the Santa Cruz Island ranch, Edwin Stanton attempted to improve its livestock potential. In 1938, he introduced about 10,000 mainland sheep, hoping they would domesticate the now-wild island sheep that he had obtained. Stanton was full of enthusiasm for this project when Assistant Director Harold Bryant met him that year, inquiring whether Stanton might be willing to relinquish his property to the proposed national monument. Stanton firmly refused Bryant's suggestion but later reconsidered his decision after the sheep he introduced also went feral. Over the years, Edwin Stanton tried to control his now-burgeoning sheep population by trapping and exporting the animals or by employing professional hunters to cull them. But the sheep always remained a problem, and the most economically valuable pastures on the ranch had to be fenced off to prevent overgrazing.[569] Feral hogs also posed a perennial problem that Stanton attempted to control by introducing porcine cholera. The results of this experiment were

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567 Edwin L. Stanton to Newton Drury, September 9, 1940, NASB, RG79, CHIS Collection, Box 14, Folder 201; According to Marla Daily, Edwin Stanton also offered to sell his ranch to the US Army in 1941 through the Headquarters of the 9th Corps Area. The Army responded that if need arose, it would contact Stanton, but that is all. No sale ever occurred.

568 Edwin Stanton sold the axle works to help finance his purchase of Santa Cruz Island. John Gherini, citing Marla Daily interview with Francis McComb, September 7, 1993. Gherini Collection.

569 Peter Schuyler, "Control of Feral Sheep (Ovis aries) on Santa Cruz Island, California," in F. G. Hochburg, ed. *Third California Islands Symposium* (Santa Barbara Museum of Natural History 1993) 443-52; Dewey Livingston, "Island Legacies: A History of the Islands Within Channel Islands National Park," NPS Historic Resource Study, 2016, 639-644.

inconclusive and probably offset by the fact that he no longer allowed private hunting on the island, once a common recreational activity among local sportsmen. After giving up on sheep, Ed Stanton turned his attention to cattle, and he eventually developed a successful beef operation, introducing high-quality polled Hereford stock. This remained the principal economic basis of the Stanton Ranch until augmented in 1965 by the reintroduction of sport hunting through paid excursions. Edwin Stanton benefitted immensely from the expertise and practical intelligence of his ranch manager, Henry Duffield, whom he had hired in a spontaneous act of generosity or foresight after Carey Stanton met him while vacationing in Mexico.[570]

Edwin Stanton and his wife Evelyn had two children, Edwin Jr., and Carey. The parents assumed that their elder son would take over the ranch on Santa Cruz Island, while Carey, the more studious of the two boys, would follow a professional career in medicine. But Edwin Jr. was killed during the invasion of Normandy in 1944. A son, Edwin III, was born while he was away in Europe. Carey Stanton now inherited the management of the Stanton Ranch in place of his older brother, though he seemed reluctant to assume the responsibilities that came with it.[571] He continued in his medical practice as a pathologist for another decade before finally deciding to move to Santa Cruz Island in 1957. Carey's father, Ed Stanton, died only six years later and ownership of the island and related assets were shared between Carey and his mother Evelyn. In 1964, the two reincorporated Justinian Caire's old Santa Cruz Island Company, which had been dissolved at the wish of its original shareholders in 1946. Ownership of the island was then conveyed to the company and formally divided among its new shareholders, Carey and his mother.

570 Henry Duffield was an experienced cowboy but had contracted polio and could no longer work. He had gone to Mexico, where Carey Stanton first saw him trying to walk on the beach sand with the help of a young boy he had hired. The boy's task was to lift Henry back to his feet every time he fell. Carey watched this scene for a while from a nearby bar, where he was relaxing with friends. Eventually, he invited Henry to join the group for a drink. The men became friends and remained in touch. Sometime later, Henry Duffield was invited to visit Santa Cruz Island, where Edwin Stanton offered him a job as ranch manager after learning of his experience with cattle. The Stanton family would never regret this spontaneous decision. Marla Daily interviewed by Timothy Babalis, August 19, 2009, recording on file at CINP Archives, Cat. 35818.

571 Ibid.

Figure 5-5. Carey Stanton (left), owner of western Santa Cruz Island, and his foreman and friend Henry Duffield.

Source: Photograph by Bill Ehorn, date unknown. CINP Archives, Acc. 343, Cat. 9946.

On the basis of his father's will, Carey received two-thirds of the company shares and became the principal owner and decision-maker of the Santa Cruz Island Company. Under his direction, the Stanton Ranch began to explore alternative sources of income to supplement its core beef cattle operation. Few opportunities were available except to lease land or other resources to special interests. Among these was the military, which had been active in the Channel Islands since World War II and remained interested in using the islands for missile technology development as the Cold War escalated. Carey supported the military's presence and renewed a lease that his parents originally had negotiated with the US Navy in 1949 for a radar observation and missile tracking station on the ridge of the island's isthmus. Carey Stanton also began contracting with the Santa Cruz Island Hunt Club in 1965. This business was operated by William E. Huffman and Richard A. Lagomarsino, the brother of Congressman Robert Lagomarsino. In 1966, Carey leased a small parcel of land in the Central Valley just west of his Main Ranch to the University of California, Santa Barbara for a research station. At the recommendation of Henry Duffield, who continued as ranch manager after Edwin Stanton's death, Carey finally abandoned the sheep operation, turning out the remaining sheep to become feral. Most wandered to the north side of the island, where they were targeted by the hunt club.[572]

Carey's mother Evelyn Stanton died in 1973. Her one-third share in the Santa Cruz Island Company went to Edwin III, Carey's nephew, but young Edwin was still a minor and Carey held the shares for him in trust. That same year, Carey met Marla Daily, who became a close working

572 Ibid.

assistant for the remainder of his life, and afterwards a loyal defender of his legacy. Daily had been a student of UCSB anthropology professor Michael Glassow, who at that time was just beginning an archeological survey of Santa Cruz Island and offered Daily a job as cook for the expedition. Since the archeologists were based at the UCSB field station adjacent to the Main Ranch, Marla Daily frequently encountered Carey Stanton. The following year, the University of California hired her to assist Lyndal Laughrin as associate caretaker of the field station, a position she held until 1980 when the university began using student interns instead. During these years, Daily frequently met with Stanton. Still the anthropologist, she recorded many hours of interviews with him and ranch manager Henry Duffield on the history of Santa Cruz Island and the Stanton Ranch. When the university eliminated Daily's position, Carey Stanton offered her employment as his own assistant. Her official duty was to catalogue Stanton's personal library, but in fact she was responsible for any number of tasks that came up in the course of managing the ranch or Stanton's elaborate social engagements. As Daily recalls, Carey Stanton had about a dozen regular friends from Stanford University who came out periodically to stay at the Main Ranch, where Stanton entertained them at dinner parties in a very structured and formal environment. He was, she observed, an "intentional Victorian."[573]

Carey Stanton's nephew, Edwin III, was critical of his uncle's management of the island ranch, in which he had no part. By this time, Edwin was old enough to have inherited his one-third share of the Santa Cruz Island Company, but as a minority shareholder, he had little say in how it was managed. On November 12, 1976, he filed a lawsuit against his uncle's company charging that he was being excluded from sharing in its benefits. He alleged that Carey and his grandmother before her death, had been "using the corporation for their own selfish purpose of keeping the island for their personal power, vanity, pleasure and aggrandizement without regard to profit motive or benefit to the minority shareholder."[574] Edwin also claimed that the cattle operation had been losing money since 1965, while his uncle had been living an extravagant lifestyle at the expense of the Santa Cruz Island Company and, by implication, at Edwin's expense.[575]

Carey Stanton knew that, whatever the outcome of this suit, it would prove costly to him and probably ruin the island ranch. By this time, he had come to love Santa Cruz Island, and was fiercely protective of its interests, but the ranch was a great burden and suffered under considerable financial liabilities, not the least of which was the inheritance tax that Stanton had been required to pay following his mother's death. This was exacerbated by falling livestock prices. According to Daily, Stanton frequently complained that his parents had hung an albatross around his neck in giving him responsibility for the place. Stanton had come to depend, to an increasing degree, on the various rental incomes he received. The most lucrative source of revenue was the lease to the Santa Cruz Island Hunt Club. While these incomes were sufficient to maintain the ranch and to service existing debt, they would not be able to sustain Stanton through a protracted lawsuit, and he began to consider other alternatives including sale of the ranch itself.[576]

The Park Service, of course, remained interested and had already approached Stanton about purchasing the property several months earlier at the lunch that Stanton hosted for NPS

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573 Ibid.

574 John Gherini, *Santa Cruz Island: A History of Conflict and Diversity*, (Spokane, WA: Arthur H. Clark Co., 1997) 169.

575 Marla Daily interview.

576 Ibid.

Director Gary Everhardt, Western Regional Director Howard Chapman, Superintendent Bill Ehorn, Chief Ranger Mack Shaver, and Al Vail at the Main Ranch on Santa Cruz Island. This was Ehorn's first occasion to meet Carey Stanton in person, and was, in fact, the first time any Park Service staff had visited the Stanton Ranch since Don Robinson's unfortunate blunder several years earlier. When Director Everhardt asked Stanton if he would be willing to sell the ranch, Stanton's answer was still an emphatic "no," although this time he was not offended by the question and did not dismiss his guests out-of-hand. Instead, he simply chided the director for the Park Service's poor management of Anacapa and Santa Barbara Islands. But Stanton opposed selling to the federal government in principle as well as precedent. Marla Daily recalls that Carey Stanton frequently complained of the government's inability to provide consistent, responsible management of its resources owing to its ever-changing political leadership. He also objected to existing NPS policies, which he believed placed too much emphasis on providing public access and recreational development, all of which he thought would adversely affect the character of Santa Cruz Island.[577]

Figure 5-6. The Main Ranch in the Central Valley of Santa Cruz Island has served as the home of Justinian Caire and Carey Stanton, and the headquarters for The Nature Conservancy.

Source: Photograph by L. Dilsaver, August 2018.

577 William Ehorn, "The Establishment of Channel Islands National Park," undated typescript, not earlier than 1995, CINP Archives, Acc. 298, Cat. 6835, Folder 39; Marla Daily interview.

The Nature Conservancy

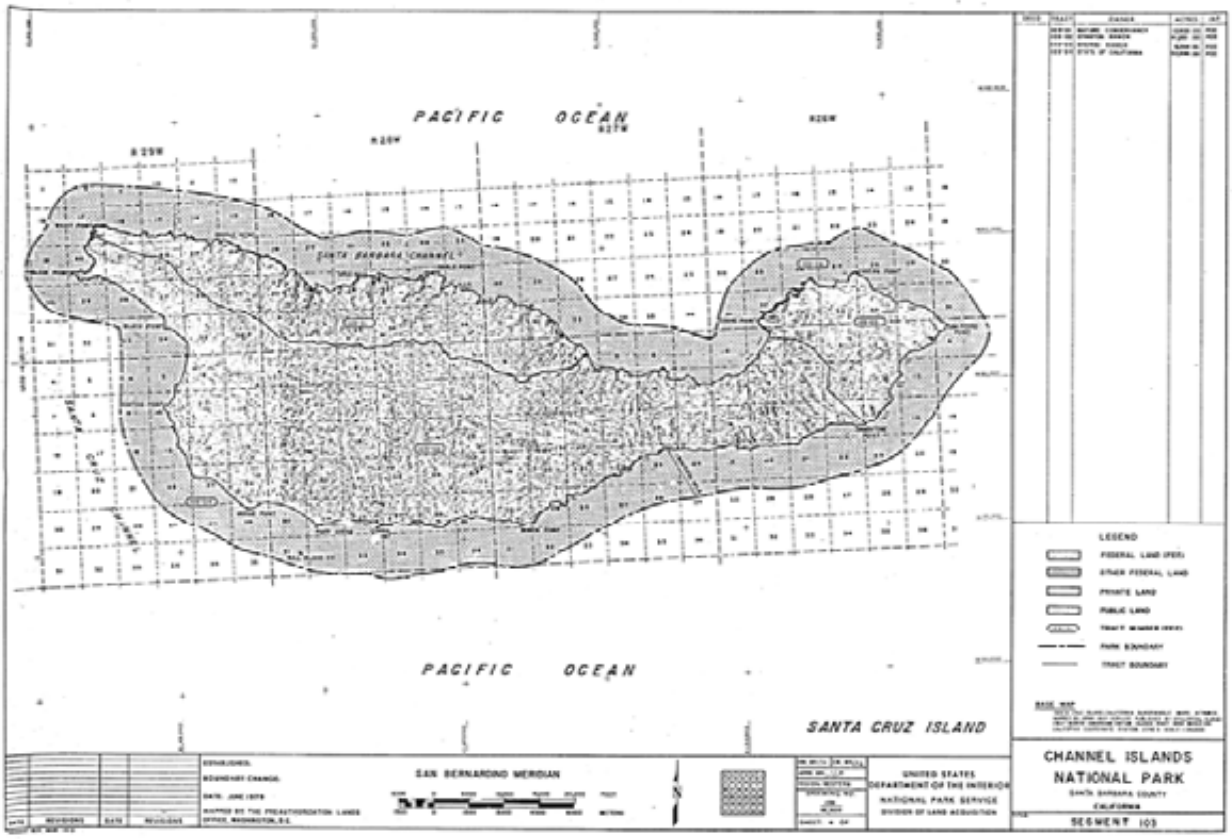
Although Carey Stanton considered selling his ranch to the University of California—a natural choice given his existing relationship with UCSB through the latter's research field station in the Central Valley—he worried that the state university system was also subject to political vicissitudes with the governor on its board of directors and would therefore prove just as unreliable as any federal agency. In the end, Stanton chose to sell to a private, nonprofit organization and began negotiations with The Nature Conservancy in January of 1977. Incorporated in 1951 by a group of scientists from the Ecological Society of America, TNC was committed to protecting significant natural places through strategic land purchases and conservation easements.[578] The organization was already aware of Carey Stanton and his Santa Cruz Island ranch through board member Jake Chittle, a wealthy Southern California rancher. Chittle had bequeathed his own Rancho Las Cruces in the Santa Ynez Mountains of Santa Barbara County to TNC in 1975 and hoped that Stanton would be willing to do the same. Chittle contacted Marla Daily to arrange a meeting, but Daily, well aware of Stanton's sensitivity on this subject, advised Chittle not to contact him directly. Instead, she proposed bringing Stanton to a public presentation that was being planned by TNC at the Santa Barbara Museum of Natural History. Unaware of the elaborate choreography that was occurring behind his back, Stanton agreed to go and was pleased with TNC and its staff. During the discussion that followed the presentation, he indicated his willingness to consider selling to the organization. Al Vail was also part of this discussion but showed no interest in working with TNC.[579]

By September 1978, Carey Stanton and The Nature Conservancy reached an agreement and were ready to sign a deed of sale. The terms of the agreement were complex. TNC paid $2,524,000 for the sale. This included $900,000 to buy out Edwin III by purchasing all of his one-third share in the Santa Cruz Island Company. It came at a time when his own child was ill, he was consumed with worry, and faced with potentially serious medical costs. As part of the agreement to settle the lawsuit, the amount of money paid to Carey Stanton had to match that paid to Edwin III. Hence, another $900,000 purchased half of Carey's two-thirds share. Carey Stanton was left with outright ownership of one-third share in the company as well as proxy status for his nephew's shares, allowing him to remain nominally the majority shareholder for voting purposes, and thus retain the direction of the Santa Cruz Island Company, despite its actual majority ownership by TNC. The balance of the money from the sale went to repay the company's outstanding debts, including what remained of the estate tax. A complex division of the island was also made, with TNC receiving about 12,000 acres, approximately one-fourth of the ranch property, on the island's northern side. This was subsequently leased back to the Santa Cruz Island Company. The company, and therefore Carey Stanton, retained ownership of the remainder of the ranch property. This left Stanton in nominal control of the entire ranch for the time being. However, he also agreed to bequeath the entirety of his shares in the company to The Nature Conservancy upon his death, or in 2008, whichever came first.[580]

578 The Nature Conservancy, http://www.nature.org. Accessed June 19, 2012.

579 Marla Daily interview.

580 John Gherini, *Santa Cruz Island*, 171–172; John Gherini comments to Lary Dilsaver on April 14, 2019.



Map 5-1. A Park Service planning map shows the boundary with the Gherini property on East Santa Cruz Island and the northern section of the island (section 103-01) purchased outright by TNC in 1978.

Source: June 1979, Denver Service Center, Technical Information Center, CHIS_159_92500_[id238725].

EAST SANTA CRUZ ISLAND

At the time the park enabling act passed in 1980, East Santa Cruz Island was equally divided among the four children of Ambrose and Maria Gherini. Ambrose had married Maria, one of Amelie Caire Rossi's daughters, which made him a grandson by law of Justinian Caire. After Caire's death in 1897, his six children and Justinian's surviving spouse, Albina, engaged in a long period of litigation (1912–1932) concerning their shares in the Santa Cruz Island Company. Ultimately, in 1925, the Santa Barbara Superior Court ordered a division of the island into seven parcels to be distributed among the heirs, including Caire's widow Albina. Parcels six and seven, comprising 6,200 acres east of the Montañon, were given to the heirs of Amelie Caire Rossi who died in 1917 and to Aglae Caire Capuccio. Aglae was not interested in having anything more to do with the island and sold her share to her sister's children the following year, thus leaving all of East Santa Cruz Island to the Rossi family by 1926. Responsibility for managing the property was given to Amelie's daughter Maria and her son-in-law Ambrose Gherini. In 1930, Maria and

Ambrose purchased the interest of Maria's siblings and thus became the sole owners of the east end of the island, an area thenceforth known as the Gherini Ranch.[581]

On the advice of a former superintendent of the island ranch, Ambrose raised only sheep. While he managed the ranch, Maria Gherini kept the books. Between 3,000 and 4,000 sheep were typically stocked by the Gherinis, who used Scorpion Ranch as their principal base of operations, while using Smugglers Ranch only as a seasonal outpost. Ambrose Gherini built the first pier at Scorpion Ranch in the early 1930s using eucalyptus pilings. It was located in the middle of the anchorage. A second wood and concrete pier, built in 1938, replaced it and was located at the west end of the anchorage. The new pier made it easier to transport sheep to the mainland by boat, though the primitive structure was frequently damaged in winter storms.[582]

Ambrose Gherini managed the Gherini Ranch until his death in 1952. Upon his death, Ambrose's interest in the ranch passed to his surviving wife Maria who died in 1960. After her death, East Santa Cruz Island was then divided equally among the Gherinis' four children: Pier, Francis, Ilda McGinness, and Marie Ringrose. Both Pier and Francis had grown up helping their father on the ranch during summers, and they now shared in the management of the operation, though each had his own legal practice on the mainland as well. The two sisters were less involved in the ranch, though they maintained their legal interests.

Raising sheep on East Santa Cruz Island was an arduous task, and its profitability steadily diminished in the decades following World War II. In response, the Gherini family considered other ideas, collectively known as the Russell Plan, for developing their property. This included their unsuccessful 1963 plan for an extensive recreational and residential resort that stimulated interest in establishing the national park.[583] The Gherinis were not simply looking for ways to make more money from their land; they were also trying to get out of the difficult business of running an island sheep ranch. But failing to find an economic alternative, they entered into an agreement in 1979 with William (Pete) Peterson to operate the ranch for a small fee and a percentage of Peterson's profits. East Santa Cruz Island would remain a sheep ranch, but now the Gherinis would be relieved of the responsibility of personally running the operation.

Pete Peterson and his young wife Michel managed the sheep ranch with great enthusiasm and ingenuity, but little profit, for the next five years. They were assisted by the Gherini's former caretaker, Fidel Huerra, an experienced sheepman. In 1984, however, Pete Peterson was seriously injured in a plane crash while returning to the island, and while he recuperated in the hospital Francis Gherini made arrangements with outdoorsman Jaret Owens to operate a hunting club called Island Adventures on East Santa Cruz Island. This was finalized through an operational agreement signed by all of the Gherini family members.[584] Owens proposed to host

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581 Except where otherwise noted, Caire and Gherini family histories based on John Gherini, *Santa Cruz Island*, 1997.

582 The Gherinis had added concrete to an existing rock in the west side of the harbor to create an abutment for their pier. This structure was improved by William Peterson in 1966, but a truly durable pier was not achieved until the late 1990's, when NPS maintenance staff developed a large concrete pedestal on top of the original abutment and spanned the distance from there to the shore with a railroad flatbed. Earl Whetsell interviewed by Timothy Babalis, August 10, 2009. Transcript on file at CINP Archives.

583 The earliest bill proposing the establishment of an expanded national park dates from 1963, the same year that the Gherinis began planning their resort. This was Senate Bill 1303, "The Channel Islands National Seashore Act," authored by Senator Claire Engle. It was opposed by the private landowners. Gherini, *Santa Cruz Island*, 217; "A Master Plan for the Gherini Ranch Development, Santa Cruz Island" prepared by George Vernon Russell, FAIA, Architects, Engineers, Planners, June 1965. CINP Library; John Gherini comments to Lary Dilsaver, 2019.

584 Stanley Albright to Representative Robert Lagomarsino, December 9, 1992. CINP Archives, Acc. 265, Cat. 6494, Box 7B.

excursions for paying customers, who would be allowed to hunt the island's semi-feral sheep. For $1,000, plus expenses, each hunter would be allowed to shoot one ram and two ewes. This was a far more lucrative, if less sustainable, operation than traditional pastoralism. Under the agreement, the Gherinis would receive 25% of the profits. Precedents for the Owens's hunting club already existed on Carey Stanton's side of the island, where the Santa Cruz Island Hunt Club had been operating since 1965, and on Santa Rosa Island where Wayne Long ran hunting excursions for his outfit, Multiple Use Managers. The success of the Santa Cruz Island Hunt Club, despite current efforts by TNC to eradicate all of the feral sheep from its portion of the island, helped motivate the arrangement between Jaret Owens and the Gherinis in 1984, although Owens had already made a successful trial the year before at Smugglers Ranch. At the time of Pete Peterson's plane accident, the Gherini Ranch was in disrepair, and Peterson was in arrears in payments to the Gherini family. According to John Gherini, Peterson's noncompliance with the terms of the agreement led to an eviction notice that called for him to remove as many sheep as he could round up in a week's time. Several angry confrontations ensued between hunters and shepherds, but the pastoral period on East Santa Cruz Island ended.[585]

Jaret Owens was assisted in setting up Island Adventures by his parents Duane and Doris Owens. The elder Owens's moved to Smugglers Ranch in December 1983 and spent the next five months improving the old ranch house there to make it habitable after years of neglect and vandalism by passing boaters. Once this was accomplished and after the Petersons' departure, they moved over to Scorpion Ranch and set to work improving that property as well, replacing the roof and installing windows in the two-story adobe. They improved the wells on the property, cleaning them out and installing new pumps. They also constructed a septic system so that flush toilets and showers could be installed. Many tons of accumulated debris and garbage were either burned or buried. After two years of hard work, the Owens's then requested, and received, permission from Francis Gherini to begin hosting guests at the improved ranch. By this time, Pier Gherini's health had begun to fail and his brother assumed most of the responsibility for managing island affairs. The operations of Island Adventures expanded to include two types of excursions: customers could stay in the more primitive facilities at Smugglers for hunting or stay at Scorpion, hosted by Duane and Doris. Hiking and boating were the main attractions there. The elder Owens duo remained at Scorpion Ranch for seven years, until Duane's ill health forced them to return reluctantly to the mainland in early 1991.[586]

The ever-present threat of vandalism from passing boaters convinced Francis Gherini of the need to maintain a resident caretaker at each of his remote ranches. Duane and Doris Owens looked after Scorpion, but Smugglers remained vulnerable, since Jaret Owens' hunting parties were present only intermittently. Francis Gherini therefore proposed an arrangement with the National Park Service to post a ranger on East Santa Cruz Island to prevent trespassers from landing on the island and damaging property. Superintendent Ehorn consulted with the Department of the Interior's solicitor's office about the legality of this action, because the National Park Service did not yet own any of the property. The solicitor agreed that the park legislation allowed it and Ehorn consented to the proposal because he knew it was in the best interest of the park to maintain the island resources in good condition. He also appreciated the importance of maintaining good relations with the Gherinis to facilitate the eventual sale of East

585 Michel Peterson, *Once Upon an Island: A Love Affair with Santa Cruz Island* (Santa Barbara, CA: Santa Cruz Island Foundation, 1998), 163-184; John Gherini comments to Lary Dilsaver, 2019.

586 Duane Owens to Francis Gherini, Dec. 30, 1990, CINP Archives, Acc. 265, Cat. 6494, Box 7B.

Santa Cruz Island to the National Park Service, which by this time the park administration considered inevitable.[587]

Park maintenance staff Kent Bullard and Earl Whetsell modified a Conex shipping container to serve as a ranger residence and sent it over to the island on the park boat. It was off-loaded at Smugglers by a helicopter in 1984. This solution became the permanent residence and office of the newly-established East Santa Cruz Island, first occupied by Don Unser in 1984 and then Mark Senning from early summer of 1987 through the end of 1989. It also established a precedent for park housing on the other islands. During his tenure on East Santa Cruz Island, Senning would see Gherini from time to time, sometimes strolling with him on the beach and occasionally dining with him at his island house, especially on the Fourth of July when Francis Gherini celebrated his birthday at Smugglers Ranch. Mark Senning felt as though he was treated like one of the family. Despite the good relations between Senning and Francis Gherini, and anecdotal information that Gherini may have related to Senning about supporting the park, Francis opposed the National Park Service in its efforts to gain his property. For example, in writing to his brother Pier Gherini on January 10, 1978, Francis voiced his opposition to the park legislation by stating that "Neither I nor anyone in my family have or ever did have any interest or desire that my portion in Santa Cruz Island be sold to the government or anyone else." He again expressed his feeling in a letter to NPS Regional Director Stanley Albright on August 14, 1989, writing that he "strenuously" objected to the sale of his brother's interest to the Park Service.[588]

Relations were also positive at that time between the park and Island Adventures. Superintendent Ehorn periodically visited the island and would stop by to see the Owens's at Scorpion Ranch. He always had good things to say about the work that Duane and Doris were doing on the property and encouraged them to continue. Ehorn even arranged for Duane to become a VIP (Volunteers-in-Parks program), allowing him to use the ranger's ATV to assist in patrolling East Santa Cruz Island.[589] These warm relations continued while Ehorn remained superintendent, but they changed dramatically after he left the Channel Islands in 1989.

BUILDING THE FACILITIES OF THE NEW PARK

When Channel Islands became a national park in 1980, its maintenance division consisted of only three permanent employees: Kermit "Bob" Besett Jr., who was chief of the division, and maintenance workers Wayne Pero and Roger La Mere. Both Pero and La Mere transferred to other assignments the following year. Although the enabling act did not actually increase the number of facilities for which the division was responsible, this was very slender staffing for a park that now faced the logistical challenge of potentially working on five separate islands as well as maintaining a new headquarters on the mainland. Despite modest but steady increases in staff and budgets over the next few years, the maintenance division never had enough resources to meet its obligations without resorting to creative, often unorthodox, solutions. Not least of its

587 The government's appraisal of East Santa Cruz Island was completed in 1985 and negotiations with the Gherini family for the purchase of their property began shortly thereafter.

588 Mark Senning, conversation with Timothy Babalis, August 12, 2009; John Gherini comments to Lary Dilsaver, 2019. Both letters are in the possession of John Gherini.

589 Duane Owens and Jaret Owens to Congressman Robert Lagomarsino, November 13, 1992, CINP Archives, Acc. 265, Cat. 6494, Box 7B.

challenges was the added cost of working on remote islands. Basic construction materials, such as gravel or lumber, could become 10 times more expensive by the time they were delivered to the park, loaded onto boats, off-loaded on an island, and moved to their ultimate destination.[590] Another major challenge was the unpredictability of transportation, which made it difficult to plan work schedules very far in advance or to meet project deadlines. A sudden change in weather or a mechanical breakdown might delay travel for an indefinite period of time, and the staff had to be patient and flexible enough to work around these unplanned schedule modifications. Challenges of this sort required an unusual degree of dedication and creative energy from the employees who worked at Channel Islands and became a selective pressure on staff members, determining who remained at the park for any significant length of time. Those who found these challenges stimulating would stay, sometimes for many years. Those who did not usually left quite soon.

Bob Besett was among the former. He remained at Channel Islands from the early 1970s until his retirement in 1992, helping to guide the new park through its first and most challenging decade of physical growth.[591] Another member of the maintenance staff who found the unorthodox conditions at Channel Islands stimulating was Kent Bullard, who transferred to Channel Islands from Rocky Mountain National Park in 1982. Bullard was the first maintenance employee hired by the park who had prior agency experience, arriving with a journeyman rating at Wage Grade 9. Not only had he worked at other national parks, but as the son of a ranger, Bullard had grown up in the National Park Service, and he brought to the Channel Islands a level of formal training and an institutional knowledge that were relatively new for the park's maintenance division at that time. Superintendent Ehorn quickly promoted Bullard to the Wage Leader position at headquarters following the incumbent's departure after only one year.[592]

Earl Whetsell was another early addition to Channel Islands' maintenance division who stayed for many years and participated in nearly every major construction and infrastructure project undertaken by the division during the early years of the park. He arrived in 1983, one year after Bullard. Whetsell, like Bullard, was initially assigned to work on Anacapa Island, which was the center of attention for most park activities at that time, but unlike Bullard, he had no prior agency experience. He did, however, bring a wide variety of skills and natural talent as a result of working for many years as a private contractor. Whetsell applied for a temporary job at the park to supplement his contract work during a slow period and expected to stay no more than a few weeks repairing trails that had been damaged during the El Niño winter, but he soon discovered that he liked working on the islands and decided to stay despite the low wages offered by the National Park Service. Whetsell spent the next 26 years working for the Park Service, nearly all of it at the Channel Islands, with a three-year stint working at Redwood National Park toward the end of the 1980s. Whetsell later received a retirement plaque with the dedication, "For the longest two weeks in history."[593]

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590 Kent Bullard mentions gravel as an example. This might cost $10.50 per ton on the mainland, but would have increased in cost to $113 per ton by the time it was transported to the island owing to staff time spent packaging the material and loading it onto and off boats. Kent Bullard interviewed by Timothy Babalis, June 29, 2009. Transcript on file at CINP Archives.

591 Kermit "Bob" Besett began working at Channel Islands National Monument as a temporary boat operator. He was converted to career conditional maintenance worker (WG-11) in June 1973.

592 Kent Bullard interview.

593 Earl Whetsell interviewed by Timothy Babalis, August 10, 2009, Recording in CINP Archives.

Kent Bullard and Earl Whetsell came to Channel Islands at a time when very little serviceable infrastructure existed at the park. Much of what was needed had to be constructed from scratch. Though daunting, this challenge was kept interesting by the relative freedom that the maintenance staff enjoyed under the park's administration at that time. Superintendent Ehorn supported and even encouraged their efforts to find creative solutions. This freedom was underscored by the physical isolation of the islands themselves, which left much of their activity outside the pale of regular scrutiny. The first few years required an uncommon degree of ingenuity, since the park was also handicapped by a lack of adequate tools and equipment. What it had was mostly salvaged from a US Navy surplus yard at Port Hueneme and was either ancient, decrepit, or both.

Whetsell initially was stationed at park headquarters on the mainland and traveled out to where the projects were. He kept all of his tools in a trunk small enough to shove onto a helicopter at a moment's notice whenever this form of transportation became available. In order to extend the park's meager budget, he proposed doing as much work as possible in-house, even new construction, instead of contracting out the design and labor as other parks typically did. Any savings that were realized could then be used to buy new tools and equipment, which in turn facilitated the park's ability to do more work in-house. Funds allocated for a specific project could not be used to purchase equipment not directly related to that project. However, the park administration and the regional office did not interfere so long as the money was being used for the ultimate improvement of the park. The earliest opportunity to put Whetsell's unorthodox technique into practice came when the maintenance division had to replace the park's aging fuel tanks on Anacapa Island in 1983. The project was funded at $70,000 but Whetsell and his crew completed the job for about $20,000. They used the remainder of the project budget to purchase a light tractor that was urgently needed on the island for a variety of routine tasks from grading roads to moving heavy equipment. The success of this project encouraged a similar procedure for much of the subsequent work done on the islands.[594]

The Ventura Harbor Visitor Center

The savings realized by doing construction in-house on Anacapa Island were in sharp contrast to the substantial costs that the park had incurred with its first, and largest, construction project—the new visitor center and administrative headquarters at Ventura Harbor. This building had been contracted out in the usual way to a private construction company, Merco Construction, under the supervision of a Park Service contracting officer from the Denver Service Center. Work began in December 1980 and continued for the duration of the following year. By early 1982 construction was largely finished, and park staff had already vacated the old Ventura Port District Office that they had occupied for the previous nine years to move into the spacious new facility (see figure 3-5).[595]

The building attracted many new visitors and generated a great deal of excitement, not only within the Park Service but also among port district administrators, who saw it as an anchor for future expansion of the Ventura marina. They used its popularity as an inducement to

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594 Earl Whetsell, interview; The continuing success of this model was noted several years later in the maintenance division's annual report to the superintendent: "The Maintenance Division undertook several major projects in addition to their normal duties. The resulting savings by performing the work in-house funded boat operations, training related to the work, and acquisition of tools and equipment." Superintendent's Annual Report for 1984 (March 14, 1985), CINP Archives, Cat. 13117, Box 1, Folder 5.

595 Superintendent's Annual Reports for 1980 and 1981 (March 18, 1981, and May 19, 1982), Ibid., Folder 6; Earl Whetsell, interview.

encourage further private development of Marina Village, which eventually grew to include shops, restaurants, a boat maintenance yard, and extensive dock facilities to support recreational boaters as well as the Union Oil Company and commercial fishermen. Yet the visitor center also proved to be an expensive headache for the park. Escalating costs during construction led to compromises in its design, and to save money, tin was used instead of copper for the exterior roofing material. Although the roof was then painted with a faux finish to provide an aesthetic effect similar to weathered copper, the cheaper metal did not hold up in the moist, salty air of the harbor and soon leaked, causing damage to the building's interior. By 1986, a new contract had to be let to replace the entire roof, this time using genuine copper in accordance with the original design specifications. In the end, the building cost far more than it would have if efforts had not been made to economize during its initial construction.[596]

Facilities on Anacapa Island

During the early 1980s, most work done by the park's maintenance division and most new construction took place on Anacapa Island, though eventually Santa Barbara Island received its share of attention. These priorities reflected the comparative accessibility of each island and their popularity among visitors at that time. Both Anacapa and Santa Barbara were already open to visitors and readily accessible, though Anacapa was much closer. San Miguel Island was open, but very difficult and time-consuming to reach, while Santa Cruz and Santa Rosa Islands were still privately owned and closed to public visitation. Attention shifted dramatically toward Santa Rosa Island after its acquisition in 1986, but most park-related development did not begin on Santa Cruz Island until the following decade.

The maintenance division spent the early 1980s improving Anacapa Island infrastructure and rehabilitating most of the remaining Coast Guard facilities in the landing cove and residential areas. Only the lighthouse and fog signal building on the easternmost point of the island were left to the Coast Guard to maintain. In 1980, maintenance staff installed septic systems to serve the ranger house, crew quarters, and visitor facilities, and upgraded the water and electrical systems. Other significant work included renovation of the old two-room bunkhouse on the west end of the generator building into an apartment for the island maintenance worker, conversion of an old garage in the general services building, which was enclosed and finished to serve as a bunkhouse for seasonal employees, reconstruction of the dock at the Landing Cove, construction of a new dive building on the lower landing, replacement of the steel staircase from the lower landing to the middle of the bluff above, and restoration of the remaining Coast Guard residence to serve as living quarters for island ranger Jack Fitzgerald.

Supplying water and fuel on all the islands was one of the biggest ongoing challenges faced by the maintenance division. Because Anacapa and Santa Barbara Islands had no fresh water, up to 150,000 gallons of water were shipped to Anacapa Island in a typical year, and as many as 24,000 gallons to Santa Barbara Island.[597] This represented a significant cost to the park. Diesel generators providing power for park operations on Anacapa alone consumed approximately 8,000 gallons of fuel every year. This matched the Coast Guard's consumption of fuel for its generators to provide power for its aids-to-navigation. US Navy and oil supply vessels delivered

596 Earl Whetsell interview.

597 These figures represent quantities that were delivered by US Navy tanker in two separate shipments during 1983. Amounts varied from year to year, but this provides a reasonable approximation of the average during that time. Superintendent's Annual Report for 1983 (February 29, 1984), CINP Archives, Cat. 13117, Box 1, Folder 5.

fuel and water as a courtesy so transportation did not represent a direct cost to the park, but the vessels consumed nearly 1,300 gallons of heavy bunker oil just to reach the island, adding an indirect environmental cost. The Park Service looked for ways to reduce this fuel consumption for power generation not only to cut expenses but, as a matter of principle, to reduce dependence on fossil fuels because of the pollution generated by burning them and the inherent risk to marine life of a spill. Later, the link of greenhouse gases to climate change also became a concern.

In 1983, the park received a Department of Energy grant to install an experimental ten kilowatt (10kw) photovoltaic system over the roof of the old fuel building on Anacapa Island. The technology of converting solar energy to electricity was relatively new and suffered from equipment failures, but after a few years and several modifications it performed well. The eventual success of the park's photovoltaic system convinced the Coast Guard to convert its own equipment from diesel generation to solar energy in 1992. These combined measures were estimated to have reduced total fossil fuel consumption on Anacapa Island from 14,700 gallons per year to only 263 gallons by 1996.[598] Because it was no longer necessary to bring thousands of gallons of fuel oil to the island on navy tankers, Kent Bullard and his team cut up the old fuel tanks and recycled the steel. He observed proudly that, "...we take the fuel out in five-gallon jugs now."[599]

Figure 5-7. Most of the East Anacapa buildings from the era of Coast Guard ownership now serve the Park Service and its visitors. Note the widespread presence of Western gulls in June 2017 shortly before the fledglings were ready to leave the island.

Source: Photograph by L. Dilsaver.

598 Ibid., US Dept. of Energy, Federal Energy Management Program, "Renewable Energy at Channel Islands: Technical Assistance Case Study," November 1997 http://www1.eere.energy.gov/femp/pdfs/21237.pdf Accessed 5 July 2012.

599 Kent Bullard interview.

Facilities on Santa Barbara Island

In 1985, the rudimentary landing facilities on Santa Barbara Island were improved. The original structure, which had been built by the Coast Guard to support its aids-to-navigation on the island, consisted of a simple armature for raising a small boat out of the ocean for storage on land. A narrow and precipitous trail led from this facility to the top of the bluff (see figure 3-6). The Park Service replaced the Coast Guard structure with a larger wharf, also perched on the rocky slope above the landing cove and built an improved trail with broad steps laid into the steep hillside. The new wharf included a motorized crane mounted on a swivel-turret for raising boats out of the water and transferring cargo, much like the previous system but more efficient. The landing cove on Santa Barbara Island was far too exposed to leave any vessel in the water for long without risking its destruction. The facility included a boathouse, an engine room for the crane, and ample deck space to stage materials and personnel.[600]

Island Housing in the Early Park Years

A major challenge for the park in the 1980s was providing adequate housing on the islands for employees. Anacapa Island already had solid buildings left over from the Coast Guard's occupation, but they needed substantial work to meet the needs of the park. This was not the case on the other islands, where new facilities had to be built from scratch. At that time, park rangers, maintenance workers, and researchers were living in canvas tents on San Miguel and Santa Barbara Islands. The Santa Barbara rangers also used an abandoned navy Quonset hut, but this structure was in poor condition and lacked adequate weather-proofing and basic amenities. Something more substantial was needed on account of cold temperatures and high winds. Winds were especially problematic with tents, especially on San Miguel Island, because it was impossible to keep out the sand. But the island deer mice were the greatest problem, and the most troublesome inconvenience for island personnel. They were among the few mammals native to the islands, along with foxes, bats, and spotted skunks. Lacking much in the way of competition and having few predators, they could become very numerous and were naturally attracted to the rangers' tents, where they often found food as well as shelter. Few people visited the islands without coming away with colorful stories about the prolific mice and often with ingenious designs for mouse traps. The only solution to the mice problem was to keep the animals out, but like the wind-blown sand, this was impossible to do with tents. Something more substantial was needed.[601]

600 Superintendent's Annual Report for 1985 (March 11, 1986), CINP Archives, Cat. 13117, Box 1, Folder 5.

601 Kent Bullard interview.

Figure 5-8. The rangers' tent in Nidever Canyon on San Miguel Island eventually was reinforced with wood but the occupants still regularly suffered from rain, wind, and mice. This led to the decision to use Conex boxes.

Source: Photographer and date unknown. CINP Digital Image Files.

The park applied for funding to build island housing, but until an appropriation could be made, the maintenance staff sought an interim solution. Kent Bullard suggested using Conex boxes, which he had noticed being used for temporary office space on private construction sites on the mainland. Conex boxes were large shipping containers consisting of a thick fiberglass skin overlaying a wooden frame. Bullard thought they could be modified for living quarters at park headquarters, then shipped out to the islands and installed. The first opportunity to experiment with this idea came when Francis Gherini approached Superintendent Ehorn to ask whether a ranger could be stationed at remote Smugglers Ranch to prevent vandalism by passing boaters.[602] Although the park did not yet own any property on the island, a Conex box was modified according to Bullard's design, loaded with miscellaneous equipment, and sent over to the island on a contract boat, where it was met by a privately operated helicopter that had been contracted to off-load the box to the island. The fully loaded box proved to be almost 2,000 pounds heavier than the helicopter's capacity, and everything inside had to be hastily removed while still on the boat. Even stripped bare, the weight of the box alone was more than the helicopter could lift until the static line that held it beneath the aircraft was doubled in length. This lessened the force pressing against the box from the downward wash of the rotors, diminishing the box's resistance just enough to allow the helicopter to finally lift it to the shore. Kent Bullard remembers watching with gritted teeth as the helicopter's rotors warped from the strain, but the operation was managed without any further problems. Workers then positioned the modified Conex box on a temporary foundation and hooked up utilities. While far from

602 Jaret Owens of Island Adventures began using Smugglers that year for hunting excursions, but he was present only on a periodic basis and Francis Gherini wanted a permanent presence.

luxurious, it proved a satisfactory solution to the need for secure temporary quarters, and the new accommodation was dubbed, more-or-less affectionately, "the ranger in a box."[603]

This successful precedent on East Santa Cruz Island led park administrators to ponder using this solution on the other islands. In 1985, the maintenance division received permission to replace the existing tent on San Miguel Island with a Conex box facility. This time, the US Marine Corps used a CH-53E heavy-lift helicopter to lift two modified boxes into place. The maintenance crew did not want to repeat their harrowing experience from the previous year on East Santa Cruz Island and made sure that they employed a helicopter that was capable of lifting this load. The helicopter lowered the two modified boxes onto a leveled pad in Nidever Canyon, above the beach at Cuyler Harbor, and positioned at right angles to each other. This left a space to the rear, where a deck was constructed with sheltered outdoor showers. Placing the showers outside was a response to another lesson learned from East Santa Cruz Island, where the indoor facility caused the fiberglass box to become unbearably humid whenever it was used. The park later used modified Conex boxes at several other locations in the park including at Point Bennett on San Miguel Island for the National Marine Fisheries Service's research center and for a short time on Santa Rosa Island. Although Channel Islands would later be criticized for housing its employees in shipping containers, the Conex boxes were considered an improvement over earlier housing conditions and were generally well-liked by the staff who used them.[604] Bill Ehorn commented in his annual report that the installation of these facilities "[brought] park housing up to standard, providing safe weather proof quarters for park employees."[605]

603 Kent Bullard interview.

604 Ian Williams, San Miguel Island ranger who was among the first as well as the last to live in the Conex box quarters on that island. Ian Williams, Mike Hill, Rob Danno, Reed McCluskey, Mike Maki, Bill Ehorn, and Ann Huston, "The Administrative History of San Miguel Island: The National Park Service on San Miguel from 1963 to 2016," *Western North American Naturalist*, 78 (4) 2018;

605 Superintendent's Annual Report for 1986 (March 18, 1987), CINP Archives, Cat. 13117, Box 1, Folder 5; Kent Bullard interview.

Figure 5-9. From 1985 through 1996 Conex boxes served as ranger residences on San Miguel Island. Their use soon drew media ridicule for having "rangers in a box," but the employees who used them found them better than tents on the windy island. Photo shows maintenance workers Earl Whetsell (standing) and Donovan Lee (sitting).

Source: Photographer and date unknown. CINP Digital Image Files.

Figure 5-10. For some heavy equipment, including Conex boxes, only helicopters could move them to and from the islands. Here a helicopter is transferring materials from the *Ocean Ranger* to Anacapa Island.

Source: Photographer and date unknown. CINP Digital Image Files.

Substandard NPS employee housing has long been a problem in many parks. The agency established a "housing initiative" in 1998 to address the issue servicewide. Channel Islands' "ranger in a box" made the national news as an illustration of the national problem. Numerous officials visited the park to see the island living quarters. Superintendent Mack Shaver accompanied Ralph Regula, Chair of the House Appropriations Committee, to the islands and Regula managed to get funds appropriated for Santa Barbara Island.[606] In 1991, the park maintenance division began construction of a new ranger station and residence on Santa Barbara Island. The maintenance crew tore down the old navy-built Quonset hut and constructed the new ranger station on its site.

The new Santa Barbara Island Ranger Station was a permanent, wood-frame structure with stucco exterior walls and a ceramic tile roof done in a contemporary mission-revival style. The building was approximately 1,700 square feet, not including a small deck along one side, and included a single-occupancy residence for the island ranger, a bunkhouse to accommodate four temporary NPS staff or visiting researchers, and a visitor contact station that eventually housed a small museum with interpretive exhibits. The project involved nearly the entire maintenance crew working 12 months to complete. Like all major construction jobs on the islands, the

606 Charles "Mack" Shaver and Holly Bundock, interviewed by Ann Huston, June 26, 2019.

greatest challenge resulted from the logistical difficulty of transporting equipment and materials to the site. Maintenance Chief Bob Besett described it in his annual report:

> *Approximately 420,000 pounds of material was palletized into 900-pound lifts, loaded into work boats, transported to the island, and then air lifted to the job site by helicopter. There was a total of 730 helicopter lifts.*

This prodigious accomplishment earned recognition for the park maintenance division in at least two trade journals.[607] Kent Bullard outfitted the new facility with a renewable energy system using a five-kilowatt, stand-alone photovoltaic array. This solar generating system provided all of the electrical energy needed by the ranger station, negating the need to install a diesel generator that would have consumed an average of 4,000 gallons of fossil fuel every year. The renewable system paid for itself in three-and-a-half years.[608]

Figure 5-11. The new housing complex on Santa Barbara Island was an immediate and drastic improvement over the old Quonset hut built during World War II.

Source: Photographer and date unknown. CINP Digital Image Files.

607 Superintendent's Annual Report for 1991 (February 27, 1992), CINP Archives, Cat. 13117, Box 1, Folder 8.

608 Federal Energy Management Program, 1997.

Planning for construction of a ranger station and quarters on San Miguel Island began in 1994. The architects, Spencer Associates, and park staff examined several sites on the island but were dissatisfied with all of the choices. They finally settled on a location that island ranger Ian Williams suggested, near the ranch airstrip. Since that site had only received a cursory look during the first visit and had not been well-defined, Kent Bullard and the regional office engineer surveyed and laid out the site with the architects on a field visit in 1995. The architects used NPS general design goals for the new building: simplicity; nonintrusive; respect for past traditions and practices; assimilation through color, scale, location and shape; sustainability; and energy conservation. They presented several design sketches, the final design being an L-shaped building forming a wind-protected court, with two identical ranger quarters at the west end of the building and a ranger station and bunkhouse in the adjacent wing. A flat porch roof connected the rooms on the exterior. The form of the new building and its vertical cedar siding echoed that of the historic ranch house that had stood nearby until burning down in 1967. Again, virtually all the construction was completed in-house by Earl Whetsell, Dave Brooks, Troy Neilan, Kent Bullard, and Fred Rodriguez. Ranger Ian Williams was able to occupy the new ranger station in February 1997.[609]

No park housing existed on East Santa Cruz Island, other than the small Conex box at Smugglers Cove. When the park acquired the final quarter-interest in February 1997, park staff began using the two-story adobe ranch house at Scorpion Ranch and, with the permission of John and Thomas Gherini, the bunkhouse. Sheep crews, pig hunters, and NPS and volunteer work crews made occasional use of the Smugglers ranch house. Funding for permanent housing at what was becoming the most-visited location in the park was nowhere on the horizon. Finally, in 1999 the park received settlement funds from a company's environmental violation in the Santa Barbara Channel that was prosecuted through the US Attorney's office. This allowed the park to construct temporary housing on a level site above the corral, between Scorpion Ranch and the lower campground. The park's maintenance crew built three duplex bunkrooms, two single cabins for the island ranger and the maintenance worker, and a common kitchen-living room building and a common bathroom-storeroom building for use of temporary staff staying in the bunkrooms.

Johnsons Lee on Santa Rosa Island

Maintenance staff members were justifiably proud of the substantial accomplishments they had achieved in the 1970s and early 1980s, but even greater challenges lay ahead with the acquisition of Santa Rosa Island in December 1986. Because the Park Service chose to avoid interfering with ranch operations as much as possible, the park planned to base most of its operations at Johnsons Lee on the south side of the island. Johnsons Lee was the site of an abandoned military base formerly occupied by the US Air Force's 669th Aircraft Control and Warning Squadron. The air force constructed a large base in 1951 on 336 acres of land leased from the Vail & Vickers Company. It occupied the base from 1952 until its deactivation in 1963, only 11 years later.[610] When the Park Service acquired this property in 1986, an administration building, four, two-story barracks, a generator building, and a maintenance garage remained. Many were beyond repair and had to be torn down, while those that could be rehabilitated required substantial work, including safe removal of hazardous materials such as asbestos insulation and buried fuel tanks.

609 Ian Williams, e-mail to Ann Huston on July 8, 2019.

610 Livingston, "Island Legacies," 278-290.

The base included a large steel and concrete pier, but this was in such poor condition that it was considered unsafe, even for administrative use by park staff.[611] The maintenance crew eventually demolished it by dropping the entire structure into the bay. The first major task confronting the maintenance division in early 1987 was to provide adequate residential and work space. In May of that year, a naval landing craft transported four travel trailers, a small tractor, a four-by-four truck, and two surplus military jeeps to the site. The trailers were positioned on a concrete pad on the hillside near the old barracks and a new septic system was installed. The park staff repaired the maintenance garage to use as a shop and to house their vehicles and equipment. In 1989 a navy contractor cleaned up the hazardous material.[612]

The NPS station at Johnsons Lee was inconvenient for many reasons, not least of which were its lack of fresh water and the need for park staff to travel 13 miles over rough dirt roads to greet visitors and carry out other work at Bechers Bay. That journey became especially challenging when the roads became wet and slippery during the winter months. The staff chafed at the impracticality of the Johnsons Lee location and in 1992 park management decided to move the base of operations closer to the ranch on Bechers Bay. The travel trailers, vehicles and equipment were relocated south of the ranch house, adjacent to a World War II warehouse that the ranchers used for storage.[613]

After Johnsons Lee was abandoned, the park no longer had any need for the old air force base structures and decided to get rid of them and restore the site to natural conditions. Many of the structures had already been gutted by a fire that was started accidentally when the island ranger was burning debris.[614] Earl Whetsell later recalled some of the unusual challenges involved in demolishing these large concrete structures with an old TD-15 bulldozer that the maintenance division had salvaged from the navy yard at Port Hueneme. The idea was to first break up the buildings, then push the concrete and metal debris into deep trenches that Whetsell had dug with the dozer. Unfortunately, some of the buildings had been mangled by C4 explosives the military had used while training its special forces for hostage recovery operations after the Iran Hostage Crisis in the early 1980s. The explosions had exposed the steel reinforcement in the concrete, leaving the mangled bars protruding outward at odd angles. The exposed rebar threatened to puncture oil lines or other vulnerable parts of the bulldozer whenever it approached. Even without further damage, the hydraulic lines on the old dozer already leaked prodigiously, requiring Whetsell to refill the oil reservoir every morning when he showed up for work. One day a pressure gauge on one of the leaky lines burst, causing oil to spray over the hot engine block and ignite. The bulldozer burst into flames, and Whetsell quickly leapt off to escape the inferno. When he looked back to take stock of the burning machine, he realized it

611 W. Lowell White, Acting Regional Director, WRO, to Associate Director, Planning and Development, January 30, 1986, CINP Central Files, SRI Binder No. 2, C.5.b.

612 Superintendent's Annual Report for 1988 (March 8, 1989), CINP Archives, Cat. 13117, Box 1, Folder 8; According to Earl Whetsell, the contractor had only agreed to remove all underground tanks and utilities, but the park cut a deal with him. In return for the park providing transportation and permission to erect a temporary residential trailer on the island, the contractor agreed to remove all of the asbestos as well. This led to a confrontation between Superintendent Ehorn and the Environmental Protection Agency, since the asbestos work that was done was conducted without permit or environmental compliance. Nothing ultimately came of this confrontation, and the work was completed. Earl Whetsell interview.

613 Craig Johnson, comments to Laura Kirn and Ann Huston on November 5, 2019.

614 The island ranger at that time was Craig Johnson. He spent a lot of his free time cleaning up the old military base by collecting debris in piles and burning it off, sometimes with the help of park maintenance staff. It was Earl Whetsell's opinion that one of these fires that burned a few of the structures at Johnsons Lee had simply gotten out of control and was not intentional. Bill Ehorn interviewed by Ann Huston, December 6, 2001. Transcript on file at CINP Archives, Cat. 35833; Earl Whetsell interview.

was still in motion and heading slowly downhill toward the edge of a bluff with the ocean below. Unwilling to lose his only bulldozer, Whetsell ran after it and, despite the flames, climbed back on to shut the engine down and bring the machine to a stop, eventually dousing the fire with dirt. The damage was soon repaired, and the demolition work continued, but Whetsell made sure to keep a fire extinguisher handy from that day forward.[615]

Bechers Bay on Santa Rosa Island

One of the largest and certainly the most dramatic achievements of the park's maintenance division during its early years on Santa Rosa Island was reconstruction of the ranch pier at Bechers Bay. The existing pier was in poor condition by 1986, even for cattle. It would never do for park purposes, which periodically involved moving heavy equipment and, more importantly, required that the structure be safe enough for use by visitors. Before the decision was made to abandon Johnsons Lee, the park agreed to repair or replace the old ranch pier with the understanding that the new facility would be shared by both the park and the ranch. The park received the first appropriation of $40,000 in December 1987, and construction began early the following year. Earl Whetsell and Kent Bullard, assisted by a few seasonal maintenance crew members, did the work in-house.

Little of the existing pier could be salvaged, requiring the majority of the new structure to be built from scratch. This included replacing nearly all of the pilings. Whetsell and Bullard used steel drill stem pipes that were pounded into the sandy bottom of the bay with an antique pile driver known affectionately as Methuselah. This primitive machine had been constructed during the late 19th century by early ranchers and consisted of a 1,000-pound cast iron trip hammer supported in a timber frame. An operator brought the hammer to the top of the frame by winching a cable through a wooden clutch. On release of the clutch, the hammer dropped, striking the head of the piling. The operator then repeated the laborious process until the piling was driven into place. Then the entire skid-mounted structure advanced a little farther along the slowly developing pier to begin driving the next row of pilings. A total of 223 pilings were driven this way. Methuselah gave out just before the job was finished and the crew finished the job with a gas-powered pile driver that the park purchased. Once the steel pilings were in place, they were tied together with caps and stiffened with metal bracing to form bents, a job that required Whetsell and Bullard to learn how to weld underwater. This difficult task consumed nearly half of the entire project, taking more than three months to complete. After completion of the bents, workers installed wooden structural members, decking, and rails on top of the pier and erected a stiff-leg crane at the outermost end for off-loading material from boats. The finished structure was approximately 600 feet long.[616] It was finished by 1989 at a total cost of $133,000, plus the labor of four park staff working over a period of eight months. This cost was dramatically less than the park's original estimate, which was based on bids solicited by private contractors and would have come to nearly $2,000,000.[617]

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615 Earl Whetsell interview.

616 Superintendent's Annual Report for 1986 (March 18, 1987), CINP Archives, Cat. 13117, Box 1, Folder 5; Ibid. for 1988 (March 8, 1989); Ibid., for 1989 (February 26, 1990), Folder 8; Ibid., for 1990 (July 11, 1991), Folder 8; Earl Whetsell interview.

617 Kent Bullard interview. The low bid had been $1.6 million, but with the usual cost over-runs associated with large and complex projects like this, Bullard assumed the final bill would have been closer to $2 million.

Figure 5-12. The Park Service reconstructed the pier at Bechers Bay on Santa Rosa Island after it purchased the island in 1986 and constructed an entirely new pier in 2011. It could handle entire herds of cattle as well as large trucks and heavy equipment.

Source: Photograph by L. Dilsaver, October 2017.

One of the first projects that the maintenance workers undertook was to install septic systems at the ranch. Prior to that, the effluent at times ran into the stream. Other projects the workers accomplished during the late 1980s on Santa Rosa Island included constructing exclusion fences around island oaks to protect them from grazing livestock, regrading 45 miles of island roads, and improving the dirt airstrip at Bechers Bay. For the latter two projects, heavy grading equipment had to be brought over to the island on a navy landing craft.[618]

In 1989, Superintendent Mack Shaver and the NPS Denver Service Center staff began compiling a "Development Concept Plan" for Santa Rosa Island, which would allow the park to plan and request funding for construction of permanent NPS facilities on the island. Chief among the desirable goals was the shift of NPS facilities from Johnsons Lee to the Bechers Bay area where visitors, transportation access, and water were available. When the temporary park operations on the island transferred in 1992, the maintenance workers brought four travel trailers to a location about 0.25-mile east of the ranch while awaiting construction of permanent buildings.

Vail & Vickers weighed in on the siting of the new NPS facilities, insisting that they not be within sight of the ranch. Planners decided to locate them in two development clusters, one for

618 Superintendent's Annual Report for 1988 (March 8, 1989), CINP Archives, Cat. 13117, Box 1, Folder 8; Earl Whetsell interview.

residential purposes and the other for maintenance operations. The first permanent infrastructure addition was the water supply system. Two porcelain-lined storage tanks were installed, each with a capacity of 50,000 gallons.[619] These were located on a graded pad in the future maintenance cluster near the bottom of Windmill Canyon. Additional utility work included bringing the hand-dug water wells into compliance with the state code.

At that time, electricity was provided by the existing ranch system, which relied on diesel generators located in a building not far from the Vail family ranch house.

But in September 1995, Kent Bullard received a $313,000 grant from the Department of Energy to install a renewable energy system using a combination of photovoltaic generators and wind turbines. Encouraged by his success on the other park islands, Bullard's intent was to replace the diesel generators on Santa Rosa as the ranch's primary power supply. The system eventually included a 12.6-kilowatt photovoltaic array located near the NPS travel-trailer complex and two 10-kilowatt wind turbines located, appropriately enough, on the southern slope of Windmill Canyon. A 300-kilowatt battery bank stored the energy generated by this system when it was not being used. The park retained the old 35-kilowatt diesel generators to serve as a backup, and the renewable system became the principal energy source for the island. Since the old generators used, on average, 17,500 gallons of diesel fuel per year and 120 gallons of lubricating oil, up to a 96% reduction in their operation resulted in a substantial savings in cost and environmental damage.[620]

Shortly after Kent Bullard received his grant for the renewable energy system, work began on the permanent residential complex. The original plans called for construction of four two-bedroom duplex houses to provide eight residential units with a total of 16 bedrooms. Several of these would be double occupancy for volunteers and seasonal employees, thus increasing capacity even further. The site for the complex was just off Soledad Road at the top of a bluff that separated Windmill Canyon from its tributary Cherry Canyon. Soledad Road is one of the principal routes traversing the island. It is also known as the Oil Road by many of the ranchers because it was originally laid out during the 1930s by Standard Oil Company to access well sites on Soledad Mountain. Though broad and usually well-maintained, the road is unpaved and can be rough going even in good weather conditions.[621] Although the bluff top between Windmill and Cherry Canyons is naturally level, the staff had to grade and remove approximately 8,000 cubic yards of soil before construction could begin. First, the maintenance crew completed two large, fully detached garages that were needed as platforms to support the site's photovoltaic arrays. The solar installation supplied power for the maintenance crew's tools during construction and later for the residences themselves. Workers finished two of the planned houses by 1998 when the project was temporarily shut down by Director's Order 36 to complete a Housing Needs Assessment, a study required to determine the minimum infrastructure required to support park staff. Based on its conclusions, the park scaled back the original project to provide for only 14, rather than 16, bedrooms. After a hiatus of more than four years, work

619 Superintendent's Annual Report for 1992 (March 10, 1993), CINP Archives, Cat. 13117, Box 1, Folder 8; CINP, "Draft Development Concept Plan for Santa Rosa Island," 1991.

620 Federal Energy Management Program, 1997.

621 Livingston, "Island Legacies," 366-367.

resumed on the remaining two structures now comprising only one bedroom each. The entire complex was not completed until 2003.[622]

Because purchases had already been made for the residential complex based on the original proposal, the maintenance division was left with excess materials after modification of the last two residences. The maintenance workers used these materials, including pre-built window units, plywood, and roofing tiles, to build a pole-type barn for storing heavy equipment. This structure, located in the maintenance area near the water tanks, was built entirely in-house without formal plans or additional project funding, for about $14,000 not including staff time.[623] It was not the only structure that Earl Whetsell and his crew built without formal plans and at a huge savings. A few years later, the crew constructed a comfort station, complete with flush toilets and showers, to replace the outhouses in the visitor campground in Water Canyon. According to Whetsell, much of this modest structure also was built with salvaged or surplus materials, substantially reducing its cost. He added that a greater savings came as a result of bypassing the formal design and planning process. He sketched out the design of the structure in less than 15 minutes in a field notebook. It was reviewed by the park divisions and Santa Barbara County.[624] The result is a beautiful building, of which Earl Whetsell is very proud. He later maintained that if he had followed the usual, legally mandated planning process, the building would have cost far more than the $38,000 that his division expended. As Whetsell ruefully commented:

> *The architects and engineers will bust your budget before you even get started. We built the whole thing, complete with tile walls... Everything, I mean nice, and we get it done for thirty-eight grand, and if you go through the procedure, you know, it'll cost you two hundred grand. And you get black-eyed because people think you built a million-dollar bathroom...If they have people that are capable of doing that, they should let them do that.*[625]

It was possible to accomplish these projects without costly oversight or review because several park administrators allowed the maintenance division to bypass the NPS formal design and construction program and use the talents of its own staff. The benefits were obvious—the park was able to build much-needed infrastructure despite a limited budget.

The Challenges of Transportation

Transportation has always been a major challenge for the park, substantially increasing the cost and difficulties associated with even the most basic operations. The NPS boats were the real workhorses of the park. Nearly all of the park staff and supplies were transported to the islands by boat; marine resource monitoring and law enforcement patrols were performed by boat. The logistics and costs of transportation were a major part of planning any project on the park islands.

Kelp forest monitoring began in 1980, the same year that the park acquired the *Pacific Ranger*. The monitoring cruises went out for five days at a time, depending on weather and ocean

622 Denver Service Center, Technical Information Center, National Park Service Project Management Information System (hereafter PMIS) 59435 ("Phase II: Construct Four, One-Bedroom Units on Santa Rosa Island.").

623 Earl Whetsell interview.

624 Ann Huston comments to Lary Dilsaver, 2019; Kent Bullard comments to Lary Dilsaver, June 16, 2019.

625 Earl Whetsell interview.

conditions. *Pacific Ranger* was immediately put into service as the park's research vessel, with a galley, eight bunks below for passengers, and a bunk in the wheelhouse for the boat captain, Charlie Bird. When it was not in research use, the boat carried cargo and staff to and from the islands, although it was larger and slower than the *Sea Ranger*. When Channel Islands acquired Santa Rosa Island, the park acquired the *Island Ranger* from another federal agency, a 38-foot Bertram boat that ran at 15–20 knots. This became the Santa Rosa Island service boat, hauling cargo, dumpsters, and passengers.[626]

In 1987, the park began hiring more boat operators. Dwight Willey, who had worked for Truth Aquatics and Island Packers, came to work for the park, as did Randy Bidwell, who had been a marine law enforcement ranger at Biscayne National Park. Willey captained the *Sea Ranger*, while Bidwell ran the *Island Ranger*. The next year Diane Richardson (later Brooks) was hired from Truth Aquatics as the first female boat operator in the National Park Service and began running the *Pacific Ranger*. The new boat captains all possessed US Coast Guard licenses. Although these were not required by the Coast Guard, since the boats were not used for commercial purposes, the park had begun to require them as a condition of employment to improve park safety.[627]

The park also benefitted from assistance by the military, especially during its early years and into the 1990s. The US Navy had large bases on the mainland at Point Mugu and Port Hueneme. Navy tankers provided the regular shipments of water and fuel oil as a courtesy to the park because it was already supporting its own facilities at San Clemente and San Nicolas Islands, and to a lesser extent on Santa Cruz and San Miguel Islands. Following his arrival at the park, Bill Ehorn made an effort to develop cordial relations with navy staff and became friends with the admiral at Naval Air Station Point Mugu.[628] With the base admiral's approval, the navy provided assistance to the Park Service whenever it did not interfere with its own operations. US Navy helicopter pilots from a search and rescue (SAR) squadron based at Point Mugu regularly flew park staff and supplies to and from the islands. This support was especially helpful on Santa Barbara Island, which was much farther out than Anacapa Island and consequently harder to reach by park boat. Santa Barbara Island rangers Chuck and Pat Scott often flew on navy helicopters since the island lies between Point Mugu and San Nicolas Island. In one year alone, Ehorn estimated the navy flew 55 hours for the park and did not charge the National Park Service. Much of this time was used shuttling rangers between the islands and the mainland, but the maintenance division also took advantage of the navy's generosity, hopping flights and occasionally requesting delivery of supplies and materials. The navy pilots flew the twin rotor C-46 *Sea Knight*, which had a large cargo bay and was capable of lifting several tons of weight. The maintenance division used this capacity to transport personnel, materials, small equipment, propane trailers, and support some of the larger construction projects.[629]

There were mutual benefits in this relationship. The SAR pilots had to be on constant alert to respond quickly to any accidents that might occur in the channel. But much of their time was spent simply waiting, and the pilots often found it desirable to park their craft on Santa Barbara Island, where the crew could relax and swim in the ocean until they were needed. Santa Barbara

626 Ibid.

627 Ibid.

628 Jack Fitzgerald interview.

629 Kent Bullard interview with Timothy Babalis.

Island lies in the middle of the channel, between the northern and southern islands, potentially improving the SAR team's response time. Park staff were happy to accommodate the navy airmen, and the island ranger's wife often baked them cookies and other delicacies. Before long, the airmen began delivering groceries so that the ranger station's baking supplies would always be well-stocked.[630]

The park relied on other military units in addition to the navy SAR squadron at Point Mugu. As mentioned above, the Marine Corps helped transport the Conex boxes for the San Miguel Ranger Station in 1985. Kent Bullard also remembers contacting an Army Air National Guard unit for help recovering a bulldozer that had rolled into a canyon on Santa Rosa Island several years later. This unit, which was based in Reno, Nevada, flew S-64 Skycranes that are designed for lifting heavy loads up to 10 tons weight. Conducted as a training mission, the entire unit flew down in two of these massive helicopters for the weekend drill. They were hosted by the maintenance crew on Santa Rosa Island who prepared a generous barbeque dinner after the bulldozer was recovered. Although everybody was happy with the arrangement at the time, Bullard later noted that the fuel consumed in flying the aircraft from Nevada to the Channel Islands had cost almost as much as the bulldozer was worth.[631]

By the early 1980s, the US Navy tankers were decommissioned and in 1989 the helicopter squadron was deployed for shipboard service. With the acquisition of Santa Rosa Island, the park required the services of a landing craft to transport wheeled vehicles, heavy equipment, trailers, and cargo to the island. The navy had a Landing Craft Utility (LCU), a 180-foot vessel that was available for charter by the park for around $500 per hour. Due to the high cost, the park only employed it on a limited basis. When the navy decommissioned the LCU, a contractor provided logistical services with a private LCU, but again at a steep price.[632] The park determined that owning a landing craft would be cheaper and more practical than contracting for the use of the privately owned vessel. In 1992 Maintenance Supervisor Steve James learned of a surplus Army National Guard Landing Craft Mechanical in Washington, which the army then transferred to the National Park Service. The park had the 74-foot LCM delivered to Port Hueneme and began the process of making it seaworthy. The aptly named *Surf Ranger* began making numerous runs to the islands to deliver vehicles, equipment, and materials and even in salvaging a wrecked fishing vessel on San Miguel Island. The US Navy and The Nature Conservancy began paying the park to deliver runs to Santa Cruz Island, which allowed the park to recoup some of the costs of running the vessel.[633]

630 Ibid.

631 Ibid.

632 Kent Bullard, e-mail to Ann Huston, July 3, 2019.

633 Ibid.

Figure 5-13. The *Surf Ranger* landing craft is used to move large items to and from the islands including trash removal trucks, building supplies, and vehicles.

Source: June 2010, photographer unknown. CINP Digital Image Files.

In 1990, Chief of Operations Tim Setnicka, who supervised the three boat captains, created a new marine branch, and moved Bob Besett from his position as chief of maintenance to be in charge of it. Tim Glass left Santa Monica Mountains National Recreation Area and became the park's new chief of maintenance. In 1992, Besett retired and management of the boating operations was transferred to the maintenance division. During the early 1990s, the park added three more boat operators: Keith Duran, who had worked for Truth Aquatics; Brent Wilson who came from Island Packers; and Tom Dore, who had been a lifeguard. The growing transportation staff and fleet added a workload that was greater than the maintenance division could manage. After complaints by Glass about the workload, Setnicka and Shaver reconstituted the transportation division in 1994 with Dwight Willey as its chief.[634]

In 1997, the park purchased the *Ocean Ranger*, which had been built as an oil crew boat in 1980 and used in the Gulf of Mexico. It came to California for use by the California Department of Fish and Game, and was known as the *Hammerhead*. The 100-foot boat had a large cargo deck, a cabin that could hold numerous passengers, as well as several bunk spaces and a galley below deck. Dwight Willey had chafed at the administrative responsibilities of managing the transportation division and asked to return to running the boats. He took charge of overhauling the *Ocean Ranger* for the park's needs, refitting the cabin, and adding a bow thruster to allow for live-boating (transferring passengers and cargo from a moving boat to a dock or pier), and maneuvering next to piers and under cranes. The *Ocean Ranger* became the park's daily island

634 Ian Williams, e-mail to Ann Huston on July 8, 2019.

transportation boat, with the *Pacific Ranger* as a backup and primary kelp forest monitoring dive research vessel. The park auctioned off the *Island Ranger*, which had become too small for its needs. In addition, the *Sea Ranger* had begun coming apart so that it was unsafe to operate, and was sold at auction.[635] Rhonda Brooks, who had come to the park from Glen Canyon National Recreation Area, became the new chief of transportation and served until 2012 when she went to work for the navy. The park did not fill her position and eventually returned the management of the fleet to the maintenance division.[636]

Figure 5-14. The park's workhorse boat, the *Ocean Ranger*, makes twice weekly trips to the islands when the weather cooperates. Rangers preparing to depart from the Landing Cove at Anacapa Island.

Source: Photograph by Robin Dilsaver, June 2017.

The park purchased its most recent boat, the *Sea Ranger II*, in 2001. It is a 56-foot fiberglass boat that runs at 12 to 14 knots and has multiple uses. When the park auctioned off the *Pacific Ranger* in 2009 due to rust problems that made the boat unsafe to operate and required costly repairs, it left the kelp forest monitoring team without a dive boat. The maintenance and boating staff

635 Diane Brooks, interviewed by Ann Huston, July 15, 2019.

636 Ibid., Dwight Willey, personal communication with Ann Huston on July 18, 2019.

quickly added an air compressor plus four bunks bringing the total to eight and the *Sea Ranger II* became the park's new marine research boat.[637]

ISLAND COMMUNICATIONS

The park's VHF radio system has always been the mainstay of island communications. The radio system links the community of rangers, researchers, maintenance workers, and boat crews throughout the islands. It has been used for exchanging everything from weather reports to supply orders to recipes. The system is supported by a radio repeater on Sisar Peak above Ojai, that was supplemented in the early 1980s by one on San Nicolas Island and later by repeaters on Santa Cruz Island and Santa Ynez Peak. A repeater extender on the east wall of the Scorpion Valley was added to relay between the repeaters and radios on the valley floor.[638]

In the early years of the monument, park radio communications from the islands and park boats were handled by office staff. By the 1980s, the park had hired a full-time dispatcher to handle communications, a role that Karen Johnson filled for several years. In the 1990s, the park added a second person in the dispatch office for seven-day coverage, managing radio communications and scheduling boat transportation and flights. The dispatch staff only worked regular office hours until 2011 when a link was established to Sequoia National Park's dispatch operation to provide 24-hour coverage. Prior to that, island personnel depended on other park staff on the mainland or other islands to be monitoring their radios for off-hour emergencies. Each morning, park dispatch at headquarters would broadcast the "Morning Report" which served as a roll call of the islands. Headquarters transmitted the day's transportation, and each island reported its weather. The morning report gradually faded away after the park had arranged service with Sequoia Dispatch.

In the park's early years, the marine radio was often the only direct link that island staff had to communicate with their friends and families on the mainland. Up through the mid-1990s, a commercial phone patch service operated on marine channels 25 and 86. Persons wishing to make a phone call would hail the Santa Barbara Marine Operator on whichever of those channels was not in use. For incoming calls, the marine operator would hail the party on marine channel 16 instructing them to switch to 25 or 86 for the call. The marine operator was an effective backup to the park radio system and was the sole conduit between the islands and the non-NPS outside world. It was also a source of entertainment in the evenings as anyone with a marine VHF radio could listen in on the telephone party line that was the marine operator channel. Calls were typically brief as the service cost about a dollar a minute in addition to standard long-distance phone fees. The first cell phones in the park were analog, three-watt "bag phones" that were acquired around 1989. The cell phone plan only provided 30 minutes of service per month per island, which greatly limited its use. In addition, users had to take the phone to a location on the island where they were able to get a signal from the mainland.

In the mid-1990s, maintenance foreman Kent Bullard discovered a promotion from cellular phone provider GTE in Santa Barbara that allowed customers to make unlimited calls to a

637 Ibid.

638 The following section was provided by Ian Williams and comes primarily from Ian Williams et al., "The Administrative History of San Miguel Island," 2018.

selected number by dialing *FREE (*3733). The park quickly adopted that cell phone plan and set up a toll-free number to headquarters as the free phone number. Once connected to headquarters, park dispatch could conference any call out to an outside line. This launched the golden age of phone service, and island staff could now make thousands of dollars of phone calls for one low monthly price. In 2008, phone companies phased out analog cell phone service. The digital phone networks didn't have the range to reach San Miguel or Santa Barbara Islands. Initially, the park switched to Nextel, which Aspen Helicopters and the fish and game wardens had been using successfully, but this only worked until about 2012, at which time cell phone service on the islands ended for the next several years.

Computer contact with the outside world arrived in August 1994 when e-mail reached San Miguel Island. IT specialist Jonathan Lewis, who worked for the NPS Washington Office, but was duty stationed at Channel Islands and had worked as a seasonal island ranger on San Miguel Island, had an appreciation for technology that would benefit the islands. He came across a product by RAM Mobile Data that allowed the user to connect to e-mail using a portable wireless modem that plugged into the computer. The park used the RAM Mobile Data modems until the *FREE cell phone plan came along. After that, the cell phone was used for e-mail. In 2001, the National Park Service switched e-mail clients to one that required an actual Internet connection. In November 2001, park IT Specialist Ulysses Huerta went to San Miguel Island with a contractor from Starband and installed the first satellite-based Internet connection. This was subsequently deployed on the other islands. In later years, Internet service migrated to national contracts that the National Park Service had with various providers, and one of the most remote places in the national park system became one of the most connected.

LAW ENFORCEMENT

Bill Ehorn ensured that Anacapa, Santa Barbara and San Miguel Islands were all staffed with island rangers. Like their traditional predecessors in the National Park Service, these generalist rangers greeted visitors, provided interpretive walks, talks and materials, and maintained the campgrounds, restrooms, and other facilities. They were also responsible for law enforcement and resource protection on the islands and on the water. Agreements and relationships with agencies such as the California Department of Fish and Game, the sheriffs' and district attorneys' offices of Santa Barbara and Ventura Counties, the Channel Islands National Marine Sanctuary, and others expanded the rangers' abilities to patrol the park waters and prosecute crimes committed in the monument and park. This relationship worked in the opposite direction as well. Park rangers were deputized by CDFG and the sheriffs' offices to assist with law enforcement on state waters and the privately owned islands of Santa Rosa and Santa Cruz.

During the early 1980s, two murders and a sexual assault occurred on boats at Santa Cruz Island. Frederick Roehler reported the deaths of his wife and stepson on a boat accident in Little Scorpion Harbor. Further investigation indicated that Roehler had murdered them. The park provided support and transportation for the Santa Barbara County Sheriff's detectives and helped to recreate the scene as evidence for the prosecution. This incident initiated the park's long-term relationship with the Santa Barbara County Sheriff's office. Roehler was convicted in

1985, and sentenced to life in prison.[639] In 1983, park rangers assisted the Santa Barbara County Sheriff in the apprehension of and collection of evidence against Kevin Cooper, who had been accused of assault by a woman on a boat anchored at Pelican Bay off Santa Cruz Island. After Cooper's capture, the victim saw that his picture was on a 10 Most Wanted poster as an escapee from the California Institute for Men in Chino after a burglary conviction. Cooper was later convicted of murdering a family in Chino Hills following his escape from prison and prior to the boat assault. He remains in prison for the murders.[640]

The California Wreck Divers Case

The presence of the rangers on the islands allowed for regular monitoring of island resources and unusual activities. Marine patrols accomplished the same purposes on the waters surrounding the islands. Anacapa Island ranger Jack Fitzgerald's marine patrols laid the groundwork for a 1987 case involving the California Wreck Divers, the largest prosecution and conviction for damage to historic maritime resources in the United States.[641] Fitzgerald had observed dive boats visiting the site of the *Winfield Scott* on many occasions during his time on Anacapa in the early 1980s. While this alone was not suspicious, their method of diving in one place for many hours or an entire day was not typical of recreational divers simply touring a site. Through various means he was able to collect evidence that the divers were looting the wreck, and also damaging it in the process. Fitzgerald prosecuted seven divers, who were all members of the California Wreck Divers Club. The first two cases were state citations (criminal misdemeanors) for damage to ecological reserves that protected biological and historical resources. The cases were heard before the Ventura County Superior Court in Ventura and resulted in one conviction and one dismissal. When Fitzgerald became aware that Marine Sanctuary laws also applied, later cases were prosecuted criminally in state court and as civil violations issued by the National Oceanic and Atmospheric Administration Office of General Counsel. Defendants that were charged with a NOAA Notice of Violation could pay a fine or attend a hearing before an administrative law judge; some violations resulted in large fines for the defendants. This marked the first time for the park to apply the Sanctuary's regulations and the authority of NOAA. It was also the first time NOAA regulations had been successfully applied to protect historic resources in the Channel Islands National Marine Sanctuary.

With these successful prosecutions, Fitzgerald maintained his concern over the California Wreck Divers even though club members assured park archeologist Don Morris that they would abide by the legal and ethical standards protecting submerged cultural resources within park and sanctuary boundaries. Fitzgerald's suspicions were confirmed in 1986, when he saw an article by Christine Barsky in a dive magazine describing illegal activities that she and her husband Steve had witnessed by the California Wreck Divers on shipwrecks in the park and sanctuary boundaries. Fitzgerald was acquainted with the Barskys and attempted to get them to testify as witnesses in a case against the Wreck Divers, but they declined to become involved. It was not until the following year that an opportunity finally arose to obtain the evidence for an

639 "Roehler, Frederick George II", Santa Cruz Island Foundation "Islapedia," accessed October 21, 2019. Jack Fitzgerald interview with Ann Huston on October 9, 2019.

640 "Kevin Cooper Timeline of Events" by Imani Tate, *Daily Bulletin*, April 17, 2016, updated Feb. 21, 2018. Jack Fitzgerald interview with Ann Huston on October 9, 2019.

641 This account is based on interviews by Timothy Babalis of Mark Senning on August 12, 2009; Jack Fitzgerald on June 24, 2009; and Yvonne Menard, August 21, 2009. All recordings are in CINP Archives. Jack Fitzgerald interview with Ann Huston on September 26, 2019. See also Superintendent's Annual Report for 1987 (May 9, 1988). CINP Archives, Cat. 13117, Box 1, Folder 8.

indictment. In May 1987, two new law enforcement rangers, Mark Senning and Yvonne Menard, a married couple, transferred to Channel Islands from Hawaii Volcanoes National Park. Menard was hired as the Anacapa Island ranger and Senning was assigned to Santa Cruz Island. Both were skilled divers, and just as importantly, neither was known in the local community. Only a few months after their arrival in California, Fitzgerald learned of an upcoming dive trip that the Wreck Divers Club had organized for the *Winfield Scott*. He arranged for Senning and Menard to get in touch with the club to join them on the dive, without revealing their identities as Park Service rangers.

In October, Senning and Menard went out with California Wreck Divers for a three-day cruise on the Truth Aquatics boat *Vision*. There was never any question that the divers knew they were engaged in illegal activities. Prior to their dives at the *Winfield Scott*, the captain of the vessel announced over the public address system that an underwater alarm would be sounded if law enforcement officers were seen approaching. During the three days of the cruise, many artifacts were removed from various sites and brought to the surface, with rangers Senning and Menard surreptitiously documenting the entire course of events. When the divers returned to the mainland at the end of their excursion, they were met on the dock by Ranger Jack Fitzgerald, Chief Ranger Tim Setnicka, a handful of county sheriffs, and two National Marine Fisheries special agents. The agents collected a large amount of evidence from the suspects and aboard the boat, although some evidence was removed or destroyed, including photographs that Senning and Menard had taken and a gold coin that had been taken from the *Winfield Scott*. But Menard's note-taking skills proved sufficient. She and Senning spent the next week writing a detailed report of more than 50 pages.

The Ventura and Santa Barbara County District Attorneys were eager to prosecute the state case and the NOAA General Counsel prosecuted the federal case. Some 54 state and federal charges were brought against 20 club members and the boat captain, leading to a protracted legal battle. The boat's owner, Truth Aquatics, was also charged for knowingly committing a crime. The company had previously been admonished by the navy for diving on navy wrecks up the coast. The cases were adjudicated over several years, with some defendants paying fines and some requesting hearings. The final ruling from the NOAA administrative law judge against the remaining defendants came in 1992, and all were convicted except one. The ruling of the NOAA administrative law judge was precedent-setting in applying the NOAA regulations to protect historic resources, including the prohibition on fanning the seabed to look for artifacts. The club president was fined $100,000. The NOAA judge's ruling was appealed to the Secretary of Commerce and was upheld. Several defendants then appealed to the Ninth Circuit Court of Appeals, arguing that their activities were covered under the maritime law of finds and salvage. The NOAA law judge's ruling was upheld by the Ninth Circuit Court of Appeals in 1994. It was also a precedent-setting ruling, stating that the government's interest in the resources within a federal preserve, such as a park or sanctuary, takes precedence over an individual's desire to exploit those resources. Laws and regulations protecting the resources supersede the law of finds and salvage.

The direct observations of Senning and Menard regarding the illegal actions of each individual diver were critical to the prosecution of all of the defendants, as well as the boat captain and the company. Morris's annual shipwreck monitoring trips and his description of the importance of the site and the artifacts were also critical. The fact that the *Winfield Scott* was listed in the National Register of Historic Places and the park had developed a small publication about it demonstrated the significance of the wreck and management interest in protecting it. Following

the successful prosecution of a criminal and civil case against the Wreck Divers Club for looting shipwrecks in park and sanctuary waters, the new president of California Wreck Divers contacted Don Morris claiming that the whole affair had been a tragic mistake and that club members were simply confused about what was legal and what was not. But Morris no longer had any patience with the club and turned down the president's offer to restore good relations.

VISITATION

As the closest island to the mainland, Anacapa received the most visitors until about 2000, when East Santa Cruz Island offered more opportunities for sightseeing and camping. Although island visitation to Anacapa was low in the 1960s and 70s compared to today, there were visitor impacts on island resources. By 1972, the monument's rangers had closed West Anacapa Island to visitors due to the sensitivity of the nesting seabirds and recommended closing the campground at Frenchy's Cove and limiting camper numbers to 30 on East Anacapa.[642] Through the 1980s and 90s, the park improved the visitor facilities on East Anacapa, and maintained the daily visitor limits required by the General Management Plan. Frenchy's Cove remained open to daytime visitors.

Santa Barbara and San Miguel Islands received the least visitation because of their distance from the mainland and irregularity of concession boat trips to the islands. Santa Barbara attracted more boaters around the island, because of its proximity to Catalina Island, but more boaters came ashore at San Miguel.[643] Santa Barbara Island offered a campground, hiking trails around the small island, and added a small visitor center in the new ranger station in 1993, with exhibits that had been funded by the National Park Service and grants from the Santa Barbara Foundation and the Santa Cruz Island Foundation.[644] Private boaters could land at any time. Island Packers usually ran weekend camper trips due to the length of time it took to travel to and from the island.

With the opening of San Miguel Island to the public under the 1976 agreement, the National Park Service committed to the navy that it would protect visitors from unexploded ordnance and be able to clear the island of the public on short notice if required for military operations. Visitor access was authorized on an escorted basis. A permit system was instituted under which visitors were required to have a permit before coming ashore. The permit specified the date on which the visitor intended to arrive so the ranger could plan on being available to lead a hike. In reality, boat trips are highly dependent on weather, and boaters would often show up whenever the weather allowed and would call the ranger on the marine radio to arrange a hike.[645]

Private boaters were the most frequent visitors, although group trips organized by institutions and organizations also arrived by charter boat. Island Packers operated concession trips to the island, primarily for weekend camping trips. The park added a campground in 1988, hosting groups of up to 30 on a typical weekend, and up to 100–200 campers in a year. The island ranger

642 Superintendent's Annual Report for 1971, n.d., 1972, CINP Archives, Catalog 13117, Box 1, Folder 7.

643 Information provided by Derek Lohuis to Ann Huston on July 16, 2019.

644 Superintendent's Annual Report for 1991 (February 27, 1992), CINP Archives, Cat. 13117, Box 1, Folder 8.

645 Ian Williams et al., "The Administrative History of San Miguel Island," 2018.

or volunteer would lead hikes to Point Bennett, the caliche forest, Cardwell Point, and other island locations for the campers, who could not hike on the island without an NPS escort.[646]

An annual island event was a re-enactment of Cabrillo's landing on San Miguel Island, executed by John Olguin, director of the Cabrillo Marine Museum. Olguin carried out this pageant for 40 years, starting the tradition with permission from the navy and continuing long after his retirement from the museum. He was 89 on his final trip in 2010, just a few months before his death.[647] Santa Rosa Island opened to island visitors during the summer of 1987. With the completion of a campground in Water Canyon and the addition of air service for visitors in 1990, visitation to the island increased. Visitation continued to increase slowly over the years as the park added hiking and sightseeing opportunities and upgraded the island facilities.

Island Packers

Channel Islands National Monument received a great boost in May 1968 when Bill Connally established Island Packers to bring visitors to the islands. The previous Christmas he and his family had chartered a boat to visit Anacapa Island and fell in love with camping on the island. Bill decided to inaugurate a company to bring visitors to the Channel Islands and by Mother's Day, had purchased an old fishing boat and christened it *Island Packer*. It soon became the family business, involving Bill's wife Lillian and their four children Mark, Kirk, Brad, and Cherryl.[648] The business started taking visitors to Frenchy's Cove on Anacapa Island under a permit with the national monument in 1968 and to Santa Barbara Island in 1970.[649] A major setback occurred when the *Island Packer* smashed on the rocks at East Anacapa Island in December 1969. No passengers were aboard, and the Coast Guard rescued the two crew members. To keep the business afloat, the Connallys sold their Oxnard home and moved into a rental. Bill returned to work as an engineer to acquire another boat and continue the operation. Early publicity for the fledgling service, as well as the relatively little-known park, required creativity. The family advertised through hand-drawn brochures and depended greatly on Bill's outgoing nature. Reservations were initially made by phone and written down by Lillian, while the kids helped where they could, selling hot chocolate, skiffing passengers ashore, and eventually serving as captains on the vessels. A greater setback happened when Bill died in 1987. The family continued Island Packers with Mark assuming the presidency of the company, Lillian continuing as bookkeeper, and Cherryl becoming marketing director.[650]

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646 Ibid.

647 Ibid

648 Cheri Carlson, "Family-run Ventura company marks 50 years taking visitors to the Channel Islands," *Ventura County Star*, May 12, 2018, file:///D:/Documents/Island%20Packers%20marks%20halfcentury%20of%20trips%20to%20the%20Channel%20Islands.html. Accessed March 21, 2019; Cherryl and Mark Connally communication with Ann Huston on June 10, 2019, provided to Lary Dilsaver on June 12, 2019.

649 Island Packers. www.islapedia.com/index.php?title=Island_Packers. Accessed on June 7, 2019.

650 Cheri Carlson, "Family-run Ventura company," 2019.

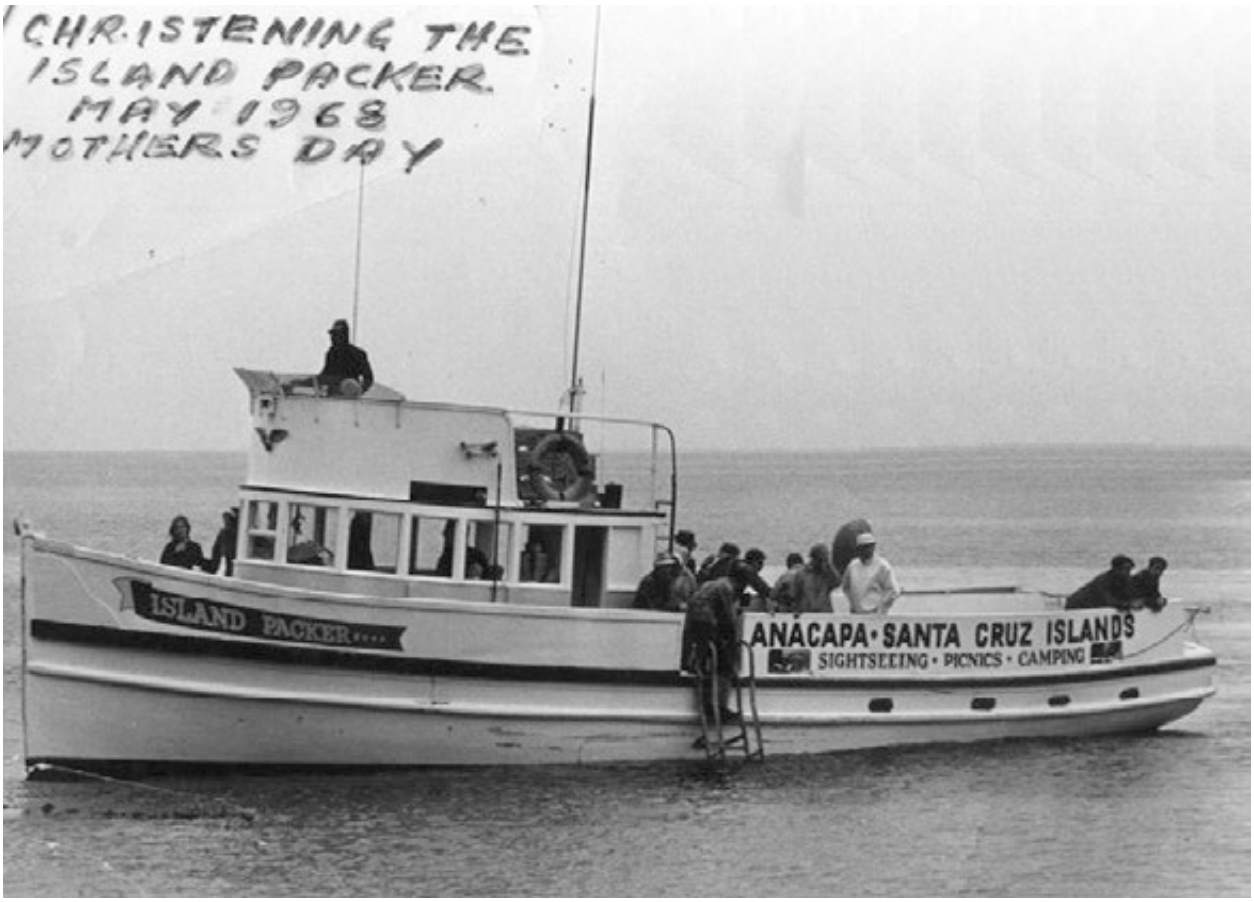

Figure 5-15. Bill Connally and his family started the Island Packers Company in 1968 with this 29-passenger boat.

Source: Photographer unknown. Courtesy of Island Packers Company.

In 1982, Channel Islands National Park awarded Island Packers the first concession permit to provide regularly scheduled boat transportation to Anacapa and Santa Barbara Islands.[651] The company operated boats out of the Ventura and Channel Islands harbors, with the capacity of the boats limited to 29–49 persons. As the park grew, Island Packers expanded operations, adding service for park visitors to San Miguel Island in 1980, Santa Rosa Island in 1987, Scorpion Harbor on Santa Cruz Island in 1997, and Prisoners Harbor in 2000.[652]

Business surged with the advent of Internet sales and online reservations. In 2001, Island Packers ushered in the "modern era." Forming a partnership among family ownership and long-time employee Alex Brodie, they built the company's first catamaran, a faster, safer, and more comfortable craft that carried 145 people. As business grew, the Connallys added another catamaran in 2003 and a third in 2013. The third generation of the family is now involved as well. Cherryl's son, Jason Wendell, serves as captain on the *Vanguard*, the last of the mono-hull vessels

651 "National Park Service Concession Awarded." Channel Islands National Park news release dated June 30, 1982.

652 Cherryl and Mark Connally communication with Ann Huston on June 10, 2019, provided to Lary Dilsaver on June 12, 2019; Island Packers had been transporting visitors to Prisoners Harbor for hikes to Pelican Bay with the permission of TNC prior to 2000.

of the company. Island Packer boats depart from Oxnard harbor for most trips to Anacapa Island and from Ventura Harbor for trips to Scorpion Anchorage and Prisoners Harbor on Santa Cruz Island, Santa Rosa Island, and seasonally to Santa Barbara and San Miguel Islands. The lack of a pier at San Miguel and Santa Barbara makes skiff landings necessary. Weather remains a constant concern. Rough sea conditions can cancel a trip forcing the company to reschedule and reimburse ticket holders. In 2018, Island Packers celebrated its golden anniversary and was busier than ever. In more than 50 years, Island Packers has amassed a remarkable safety record. Even the Park Service occasionally relies on the company to transport its personnel and equipment. Furthermore, company employees offer interpretation and lead many hikes on the islands. It is a successful model of a government-concessioner relationship. Former park Superintendent William Ehorn credits Bill Connally and Island Packers with helping to get the national park established in 1980.[653]

Figure 5-16. Island Packers' catamaran, the *Islander*, loading passengers at Scorpion Cove on Santa Cruz Island. Each of the company's new catamarans can bring 135 passengers to the islands.

Source: Photographer and date unknown. NPgallery.nps.gov.

Channel Islands Aviation

Mark Oberman founded Channel Islands Aviation to answer the need for charter flights to the Channel Islands. The first flight to Santa Cruz Island took place on January 1, 1975, out of Oxnard Airport. A year later, Mark and his wife Janie moved the operation to the Camarillo Airport. In the early years, the business served Delco Electronics Sonar Research Facility, Dr. Carey Stanton, The Nature Conservancy, and the Gherini Family on Santa Cruz Island; the Vail & Vickers Company on Santa Rosa Island; and the National Marine Fisheries Service station near Point Bennett on San Miguel Island. Oberman recalls:

653 Cheri Carlson, "Family-run Ventura company," 2019.

> *We started our public day trips in 1986, In the beginning, we did a 2 island tour with our first landing on SRI [Santa Rosa Island] for about 30 minutes where we were met by the Island Ranger who gave an orientation. Then we flew over to the west end of SCI [Santa Cruz Island] to the Christy Ranch where we did a driving tour and a Santa Maria style BBQ. We didn't do SRI only day trips until the mid-90's. We flew hunters and Vail Ranch personnel to SRI from the late 70's until 2011. We flew hunters and Vacationers to east SCI which we called the Gherini Strip above Smugglers Ranch, from the mid-80's until the NPS closed the strip maybe around the late-90's. We flew the Gherini family and ranch personnel from 1975 until the NPS closed that strip. One of my first flights in 1975, the first year I flew to the Channel Islands, was taking Basque sheep shearers to the Gherini Ranch for the last time sheep were sheared for the wool market.*[654]

Channel Islands Aviation became the official airplane concessioner for Channel Islands National Park in the mid-1990s.[655] This flight option to access one of the park's more inaccessible but interesting islands allowed visitors to take advantage of the new interpretive programs planned and developed for Santa Rosa Island and the campground established at the mouth of Water Canyon at Bechers Bay.[656] In 2016, after the park's new GMP went into effect, the park authorized Channel Islands Aviation to begin flights for visitors to the ranch airstrip on San Miguel Island. The company also flies park personnel, volunteers, NMFS staff, and contractors to Santa Rosa and San Miguel Islands. The business, now greatly expanded to include mainland charter and jet services, is currently operated by two generations of the Oberman family.

INTERPRETATION

Interpretation at Channel Islands National Park has a wide range of duties that include providing and producing public information, interpretive, and education programs, special events, community outreach, publications, exhibits, social media, and media relations. Interpretation staff interact with many public constituents, manage volunteers, maintain visitation numbers and profiles, run visitor centers and contact stations, and provide visitor services in the community and at the park visitor center and on the islands. It is a job that ranges widely from topic to topic, event to event, and must reach audiences of all backgrounds and ages. At a park like Channel Islands, handling the task on five islands, on the mainland, and an equal area of the sea is particularly taxing. One of the saving graces of the workload is the participation of scores of volunteers from the NPS Volunteers-in-Parks (VIP) program and the Channel Islands Naturalist Corps, the latter shared with the Marine Sanctuary. In most years, the volunteers equal the full-time equivalents (FTEs) of half of the permanent park employees.

Establishment of the national park in 1980 finally brought serious attention to interpretation at Channel Islands. It began with reclassification of the Ranger Division's Supervisory Park Ranger

654 Mark Oberman e-mail to Lary Dilsaver, May 27, 2019.

655 Channel Islands Aviation, "About us," http://flycia.com/about-channel-islands-aviation/ Accessed May 20, 2019.

656 Larry Speer, "Island in a Sea of Politics: Santa Rosa Rangers Cater to Visitors in an Effort to See That Their Park Prospers," *Los Angeles Times*, December 2, 1991, p. 1; Superintendent's Annual Report for 1991 (February 27, 1992), CINP Archives, Cat. No. 13117, Box 1, Folder 8.

position to an Interpretation Specialist and the hiring of Bruce Craig as the first full-time interpreter in December 1979. Craig and the park's Chief Ranger Robert Arnberger, analyzed the interpretive operation including park resources, themes, program objectives, and annual goals and presented them in a 1981 "Statement for Interpretation." Craig surveyed the three islands already managed by the Park Service—Anacapa, San Miguel, and Santa Barbara—plus the mainland visitor center. Most of the visitors to Anacapa Island arrived on the Island Packers Company's 29-passenger boat. As many as 200 private boats journeyed to the island but they rarely landed unless it was to use a restroom at Frenchy's Cove. Most of them came for fishing and diving. NPS facilities on the eastern islet included a small visitor contact station with four display cases and a guide to its trails. After being stationed on Anacapa Island since first coming to the Channel Islands in 1981, Jack Fitzgerald met groups of visitors arriving at the Landing Cove on the concession boat, gave them a brief orientation, and then led them for a short hike around the eastern islet. Because these excursions occurred only a few times each week, he spent most of his time patrolling the near-shore waters of the island in a small boat, greeting other boaters and divers, providing assistance when needed, and generally making sure that laws and regulations were observed.[657]

Santa Barbara Island had no public transportation and the few visitors came on their own boats. It offered a one-room visitor center in the Quonset hut / ranger residence. San Miguel Island opened to public visitation in June 1978, but it took two years for recreational visitors to outnumber the scientists conducting research. It had a wayside exhibit at Point Bennett about the pinnipeds and a few other signs. Only Anacapa and Santa Barbara Islands had campgrounds. On the mainland, the small visitor center held an information desk, an aquarium, an exhibit area with "feely-touchy" displays, a 35-seat auditorium, a sales area with books and items provided by the Southwest Parks and Monuments Association (later renamed Western National Parks Association), and a small garden with labeled native plants.[658]

The 1981 Statement for Interpretation recorded the 1980 accomplishments and Arnberger's and Craig's aggressive agenda for interpretation. A vigorous outreach program aided by volunteers and student interns from UCSB, presented 77 talks to 5,368 people from three groups—yacht and dive groups, 5th and 9th grade classes, and community organizations. The number of VIPs (Volunteers-in-Parks) increased from 14 to 66 and their hours of work more than tripled from 1979 to 1980. As construction continued on the new mainland visitor center, park interpreters and volunteers met 19,379 visitors at the older facility. New exhibits and additional guides and publications helped expand the story of the park and its resources. NPS rangers offered guided walks and talks to 67,492 visitors on Anacapa Island, 19,370 on Santa Barbara Island, and 2,229 on San Miguel Island. The Statement ended with a lengthy list of topics and where each should be interpreted among the three islands and the main visitor center. The majority focused on the islands' terrestrial resources and history, but tidepools, whales, pinnipeds, and shipwrecks were listed as well.[659]

Craig and Arnberger worked closely with the NPS Harpers Ferry Center to plan and design the exhibits for the new mainland visitor center. The goal of the visitor center exhibits was to

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657 Jack Fitzgerald interviewed by Timothy Babalis, June 24, 2009. Recording on file at CINP Archives.

658 CINP, "Annual Statement for Interpretation and Visitor Services, Channel Islands National Park," July 1981, CINP Central Files, 6.A.1. Annual Reports/Correspondence, Folder "Interpretation/Education Program/Planning Records," parts 1.3-1.6.

659 Ibid., part 1.6.

illustrate the various island landscapes, realizing that most of the visitors would never actually travel to an island. The island models in the breezeway gave a sense of the islands' location and geography. The photographic exhibit in the tower portrayed ocean life from the depths to the surface as one ascended the stairs, ending with telescopes to view the islands from the open top of the tower. Peter Vogt and Associates produced the new park film, "A Treasure in the Sea," which provided a feeling of what one would see and experience on the islands, and why their preservation was so important.[660]

Another accomplishment during Craig's era was the establishment of an organization called "The Friends of Channel Islands National Park," on November 23, 1982. It was one of the earliest such programs for the NPS Western Regional Office and was overseen at that level by Ray Murray. Its purpose was declared to be:

> *To aid the management programs and objectives of the Service at Channel Islands National Park. The fund-raising activities of the Friends may be directed toward but not limited to corporations, foundations, individuals, bequeaths, other charitable organizations and special fund-raising events or programs. The Friends may also solicit donations of tangible items, such as scientific equipment, office machines, rolling stock, and other items pertinent and necessary for the administration of the park and use by the visiting public.*[661]

The Friends group received large corporate donations from the oil companies, as well as smaller ones from individuals and local businesses. Carey Stanton was a generous donor to the group. The donations funded publications, island trail guides and other interpretive materials.[662]

The Underwater Video Program

In the mid-1980s, a new opportunity arose from two underwater activities performed in the park. One was the nascent inventory and monitoring program begun by the park's marine scientist Gary Davis. The other stemmed from the required maintenance of piers at the islands. All those facilities were subject to harsh conditions from seawater, wave action, and storms. Inspection of the pilings supporting the piers had to be done by divers. A part of the inspection process involved taking cameras underwater to show the condition of various features to officials onshore. As the primary visitor location, Anacapa Island's Landing Cove drew almost continuous attention at a site that to some degree was protected from the open ocean. Both Davis and Chief Ranger Jack Fitzgerald saw the possibility of having divers with the same equipment conduct interpretation of marine resources on that island.

The Channel Islands staff included certified divers since the monument began operations in Oxnard in 1967. The monument's rangers were dive-certified, and as maintenance staff and boat operators were hired, they also became certified divers, performing repairs to docks and pilings and underwater parts of park vessels. The kelp forest monitoring crew, the park archeologist, and other researchers were certified as scientific divers. Dave Stoltz, who was hired as a deckhand in 1978, participated in all levels of dive training at the park, and by the mid-1980s had

660 R. Bruce Craig, telephone interview by Ann Huston, January 9, 2019.

661 "By-Laws of The Friends of Channel Islands National Park," November 23, 1982, CINP Archives, Acc.304.3, Cat.10144, Folder 6.

662 R. Bruce Craig, telephone interview, January 9, 2019.

become the park's dive officer. By 1989, the park program had more than 30 divers and Stoltz served as the regional dive officer.[663]

The park leadership had long sought ways to engage and educate visitors about the underwater portion of the park. Visitors were able to experience whale, dolphin, and other marine sightings during their boat trips to the islands, but the marine life below the surface remained largely invisible. "Floating classrooms" attempted to fill the void by having divers bring sea creatures aboard the boats, show and talk about them, and then return them to the water. Superintendent Ehorn enthusiastically supported the concept of using divers with underwater cameras to show visitors the marine resources below the surface.

Stoltz, Davis, and Fitzgerald helped begin the underwater interpretive program in 1983 with the equipment at hand, which included hard hat diving suits and air hoses from the surface. Later, Davis used funds from one of his grants to purchase SCUBA gear for the program. Initially, called "A Guided Walk through the Kelp Forest," the program ran on two days per week in the summer. With funds provided by the park's Friends group in 1987, maintenance workers built a "dive building" on the lower landing on East Anacapa Islet to house the dive equipment and three video screens.[664] Visitors, especially children, sitting on benches beneath an overhang, watched the diver present and explain the flora and fauna and answer the questions they posed through a communication link with an interpretive ranger on the landing. It was an immediate success with visitors.

The presentation typically required three divers, one to do the talking, one to operate the camera, and another to gather the specimens to be shown and make sure the communication cables did not get tangled in the kelp (see plate 9). From 1983 to the early 1990s, topside personnel were also necessary, including a surface air supply console operator and a line tender on the dock. Subsequently, the use of SCUBA gear reduced the number of necessary land-based staff. The program did not come without problems, however, chiefly in funding. Along with all their other responsibilities, this placed a serious burden on the park's budget for divers, especially after 1985 when servicewide dive training ceased and the regions and individual parks had to assume the costs. By 1990, the park requested $15,000 to maintain training certification updates for the Western Region divers.[665]

On May 23, 1997, the park announced that the underwater video program would be linked via a microwave connection to the visitor center in Ventura. The 80-seat auditorium allowed many more people to see and interact with the divers. This was a major step in developing wider outreach to the public, a process that soon became the park interpretation staff's primary goal of connecting the islands to the mainland public. A news briefing explained:

> *The Underwater Video Program is unique within the National Park Service and offers visitors a rare glimpse into a seldom seen ecosystem. The basis of this diverse marine ecosystem is the magnificent forests of giant seaweed called kelp. These towering ocean plants flourish in the waters surrounding the Channel Islands and*

663 Dave Stoltz, interviewed by Timothy Babalis, June, 26, 2009, Transcript in CINP Archives.

664 Ibid., Superintendent's Annual Report for 1987 (May 9, 1988), CINP Archives, Cat. 13117, Box 1, Folder 8.

665 Ibid., Yvonne Menard interviewed by Timothy Babalis, August 21, 2009 Recording on file at CINP Archives; NPS, "Funding deficit of the Western Region Dive Program/Training," 101st Congress Briefing Statement, January 11, 1991, CINP Archives, Acc. 401, Cat. 13117, Box 1, Folder 11.

are an integral part of the park resource. Traditionally, this unseen yet crucial marine ecosystem has suffered from an out-of-sight, out-of-mind philosophy…With the help of SCUBA-trained park rangers and advanced underwater technology, many park visitors are enjoying their first journey into the marine world—without ever getting wet![666]

Figure 5-17. Underwater Video Program (later Channel Islands Live) staff in 1985 at Anacapa Island. From left to right: Interpretive Ranger Heidi Cogswell, Dive Officer David Stoltz, Chief Ranger Jack Fitzgerald, and Interpretive Ranger Kim Powell.

Source: Photographer unknown. CINP Digital Image Files.

Funding and Staffing Interpretation

Funding and staff were the major problems that faced the interpretation program during the remainder of the 1980s despite some cooperation with Channel Islands National Marine Sanctuary. The 1985 annual report noted a decline in the number of off-site programs due to "staffing limitations," while pointing out the significance of nearly $40,000 in donations from the Ventura Visitor and Convention Bureau, the Marine Sanctuary, the Friends of Channel Islands, and the Faria Foundation.[667] By 1990, the park's budget for interpretation was $137,842, with

666 NPS, "Live Underwater Video Program at Channel Islands National Park," May 23, 1997, CINP Archives, Cat. 40496, Series 5, Box 10, File 6.

667 Superintendent's Annual Report for 1984 (March 11, 1985), CINP Archives, Cat. 13117, Box 1, Folder 5.

another nearly $21,000 from donations and the VIP program.[668] Of that amount, 85% went to compensation and benefits for the 7.5 FTEs on staff, one person fewer than in 1981. At the same time, duties increased. For example, the park began evening programs at the mainland visitor center in 1984. Some contact and cooperation with TNC also operated through the decade after the death of Carey Stanton. Two evening programs were offered by staff at nearby state parks on an experimental basis in the summer of 1989. Visitor center staff were partially funded by the Channel Islands Marine Sanctuary during the years that it operated out of the park headquarters. Staff would alternate wearing the NPS uniform and a Marine Sanctuary shirt. Carol Pillsbury held the Marine Sanctuary manager job until the parent agency, NOAA, replaced her with Francesca Cava and moved the office to Santa Barbara in 1987. Thereafter, the two agencies cooperated, but the National Park Service bore a heavier role in marine interpretation.[669]

In October 1989, Carol Spears became the new chief of interpretation after transferring from Cuyahoga National Recreation Area (now National Park). She served in that capacity until July 2001. She came at a controversial time for the National Park Service at Channel Islands. One of the key roles for the chief of interpretation and education was to serve as the park's public information officer. Spears became the face of the park through the unfolding conflict with Vail & Vickers, eradication of pigs on Santa Rosa Island, the controversial case against Island Adventures hunting guides accused of looting a precontact grave on Santa Cruz Island, the final acquisition by condemnation of Gherini property on East Santa Cruz Island, the removal of horses from that island whicht followed, a hantavirus scare, and the deaths of thousands of pinniped pups. The arrest of hunting guides mentioned above brought a year of phone-jamming contacts and abuse during which both she and Chief Ranger Jack Fitzgerald received death threats. After that episode, they were both invited to attend the Chumash reburial of the plundered remains, a ceremony rarely witnessed by nontribe members. In her 11 years, the job of public information officer grew from 25% of her time to more than 50%.[670]

When Spears took over, the division still had only two permanent full-time "field interpreters" and three seasonal ones. During the 1990s, the workload for interpretation increased as the underwater video program matured and the park acquired Santa Rosa Island and East Santa Cruz Island. Yvonne Menard joined the interpretation staff in 1990 after serving as Anacapa Island ranger for three years. In that former capacity she participated in interpretive activities at what was then the most visited of the islands, as well as performing her duties as a law enforcement officer. Helping Menard with interpretation on Anacapa were employees of Island Packers and students of Professor Jack Myer of California State University, Long Beach. She also participated in an undercover operation that led to prosecution of Wreck Divers for plundering the *Winfield Scott* wreck. Menard became chief of Interpretation after Spears assumed the superintendent position at James A. Garfield National Historic Site. Other interpretation staff hired in the early 1990s included Bill Faulkner, diver Dianne Green, Dana Smith, former boat captain Dave Stoltz who joined the interpretation staff as the Western Region dive officer based at Channel Islands, and, later in the decade, Derek Lohuis.[671]

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668 CINP, "Annual Statement for Interpretation FY90," n.d., CINP Archives, Acc. 304.3, Cat. 10144, Folder 9.

669 Ibid.

670 Carol Spears telephone interviewed by Ann Huston, August 1, 2018.

671 Ibid., Yvonne Menard interview, 2009.

During this time, the park expanded its educational outreach by hiring an education coordinator who developed education curricula, visited classrooms in Ventura and Santa Barbara Counties, hosted students at the visitor center, and operated field trips to the islands. One of the most popular trips took students to Frenchy's Cove to explore and learn about the area's tide pools. Lisa Evan was the first to occupy the education position. Carol Peterson took over from 1998 until 2015. Since that time, Monique Navarro has occupied the position and has expanded the park's capacity for distance learning using curricula and lessons aligned to educational standards.

This period also saw the development of many exhibits, waysides, and publications. Interpretive staff designed and installed exhibits at Anacapa Island, later including the original Fresnel lens from the Anacapa lighthouse. Interpreters created a native plant garden at the mainland visitor center with accompanying trail guides. They also produced the first edition of the interpretive park book along with many other publications and designed full-scale model exhibits at the visitor center including a pygmy mammoth, elephant seal, and midden to illustrate the diversity of park resources.

The Interpretation Division and park superintendent continued to oversee the park's cooperating association, the Southwest Parks and Monuments Association (SPMA), and the nonprofit Friends of the Channel Islands organization that had been established during the early 1980s under Bill Ehorn. The Friends supported the underwater video program, floating classroom trips to Anacapa Island, and environmental education events through corporate donations and fundraising programs, while SPMA operated the park bookstore in the visitor center and provided research grants to the park. The Friends board was composed of several local business people and individuals interested in providing educational materials to the public. Looking to increase its presence in the early 1990s, the Friends board proposed the formation of a new cooperating association to address what it felt was a void in marine-related books and items in the visitor center sales area. They assembled a proposal, along with a list of items they would like to provide, and Superintendent Mack Shaver sent it to the regional director through the regional division of interpretation. The regional staff and director of SPMA objected and the regional director denied the request. In response, the Friends group provided SPMA with Channel Islands and ocean-related publications and other sales items for the park bookstore. The Friends group languished for a couple of years after that effort and the park considered dissolving the organization, but by 1993 a new board had managed to reorganize and reinvigorate the group. The revitalized Friends organization raised funds for the native plant nursery and landscaping at the visitor center, and supported interpretation and education throughout the park.[672]

672 Superintendent's Annual Reports for 1990 and 1992 (July 11, 1991 and March 10, 1993), CINP Archives, Cat. 13117, Box 1, Folder 8; Mack Shaver and Holly Bundock, interviewed by Ann Huston on March 29, 2019.

PARK ADMINISTRATION

Staffing and funding, as well as visitation, increased following the passage of the park legislation, and with it the number and complexity of jobs that the park staff had to take on. New positions during the 1980s, including resource manager, research scientist, archeologist, management assistant, chief of operations, chief of interpretation, and marine sanctuary manager exemplified the increased professionalization of the staff, while additional positions in all areas of the park coped with the increased administrative workload.

Chris Horton had managed the administrative side of park operations since separation of the monument from Cabrillo and establishment of the headquarters in Oxnard in 1967. In the meantime, clerical and secretarial positions had been added to the staff. By the 1980s, more specialized assistance was needed to address the increased procurement, human resources, budget, and other administrative requirements. Superintendent Ehorn asked Horton whether she would like to take on one of these administrative positions or supervise them. Because she had been performing as a generalist in all of these areas, she chose to supervise the administrative staff as administrative officer. In 1988, Denise Domian, Kim Glass, and Audrey Wagner joined the staff as administrative assistants. The three received training and advanced in different administrative areas: Domian became the park's human resources officer, Glass became a contracting and procurement officer, and Wagner became the budget officer. Trish Buffington started to work for the park during the summers as a clerk-typist in 1985 and 1986 while in high school, through the Youth Conservation Corps program, and was hired permanently after she graduated in 1987. She progressed through the administrative series and became the secretary to Superintendent Setnicka in 1998 and later a management assistant. The Superintendent's Annual Report for 1988 noted that the administrative division was adequately staffed for the first time in the park's history.[673]

A CHANGE IN LEADERSHIP

In July 1989, Bill Ehorn ended his tenure as superintendent of Channel Islands after 15 years in that position. During those years, he led the campaign to redesignate the monument to a national park. This included his part in writing the park legislation that provided for low-intensity, limited entry visitation to protect park resources, a natural resources inventory, and ability to expend funds on non-NPS-owned property within park boundaries. He also had overseen and influenced the vast expansion of the park's acreage, the creation of a precedent-setting science and resource management program, and the acquisition or protection of the two largest islands in the northern archipelago. Although his actions were occasionally unorthodox, his energy, good humor, and positive attitude left a legacy of warm relations between the park and its neighbors and good morale among staff. He spent the remaining years of his career with the National Park Service as superintendent of Redwood National Park in northern California before retiring in 1995.

673 Chris Horton, interview with Ann Huston on March 30, 2019; Denise Domian interview with Ann Huston, October 2019; Trish Buffington e-mail to Ann Huston, December 9, 2019.

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CHAPTER SIX

Resource Management Matures

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CHAPTER SIX: RESOURCE MANAGEMENT MATURES

The departure of Bill Ehorn was a significant event in the management history of Channel Islands National Park that brought changes many had not expected. Assistant Superintendent Tim Setnicka served as acting superintendent of the park during the four-month interval between Ehorn's departure and the arrival of the new superintendent Charles "Mack" Shaver in November 1989. Ehorn had elevated Setnicka from chief ranger to chief of operations and then to assistant superintendent since the latter's arrival at the park in 1987. Setnicka played a prominent role in the administration of the park for almost two decades, and his bold, often highly unorthodox style was as decisive as Bill Ehorn's, but far less positive.

Tim Setnicka was familiar with Ehorn's reputation for getting things done and had long wanted to work with him, but he had applied for the chief ranger position at Channel Islands several times without being selected. He eventually proposed exchanging duty stations with James Martin, the incumbent chief ranger. Setnicka was at that time chief ranger at Hawaii Volcanoes where Martin wanted to work. The two men approached the regional director, who agreed to allow this mutual exchange provided the superintendents of the respective parks were also willing. Despite having reservations about Setnicka, Ehorn agreed.[674]

Although Setnicka proved adept at managing operations and was highly respected by many of the rangers he supervised, he had an unusual way of interacting with people, often testing them to see how far they could be pushed. The park administrative officer, Chris Horton, recalled one of her first encounters with Setnicka barely a week after he arrived. Horton was in her office at the time, on an important call with the regional office, when Setnicka walked in. After Horton ignored his repeated attempts to get her attention, he finally leapt up onto her desk and began dancing a jig. Startled, Horton lost her temper and ordered him out of her office.[675] At the time, the incident seemed amusing, if mildly irritating, but in retrospect proved an ominous sign of Setnicka's occasional indifference to appropriate social and professional boundaries, a characteristic that would present the park with well-publicized difficulties.

Given his strong personality and highly visible position, Setnicka became a dominant figure in the park. While still superintendent, Ehorn successfully kept Setnicka's worst tendencies in check by maintaining a firm hand in supervision, paying close attention to what was happening in the park, and providing quick response to any trouble before it could escalate. This applied, not just to Setnicka but to the entire staff. Ehorn's success owed much to the respect and trust he elicited from the people who worked for him, but it was also due to other members of his management staff working cooperatively under his direction. Administrative Officer Chris Horton was one of the key members of this staff. She had been with Channel Islands since the monument's separation from Cabrillo in 1967 and had performed, at one time or another, just about every duty at the park, whether she was trained for it or not. In the process, she came to know most of the park staff and their various responsibilities over time. Under Bill Ehorn, Horton played the invaluable role of "eyes and ears" for his administration, placing her knowledge of the field and her natural warmth and concern for other people to good use. The attentiveness of managers like

674 Related by Mark Senning, conversation with Timothy Babalis, August 12, 2009; Chris Horton interviewed by Timothy Babalis, August 15, 2009. Transcript on file at CINP Archives.

675 Chris Horton interview.

Horton for the welfare of park staff helped compensate for the isolation of island duty and the inevitable morale problems that could, and frequently did, develop.

The success of the park's administration, however, rested ultimately on the effective authority of the superintendent. Nothing illustrated this better than the relationship between Tim Setnicka and Bill Ehorn. Setnicka proved to be a capable supervisor under Ehorn's leadership and Horton's watchful eye but later became a divisive force in their absence. Horton recalled how this dynamic worked,

> *If I felt [Setnicka] was being unfair to someone, I would go to Bill. And then Bill would call both of us in, and then we would have this confrontation. I would tell him exactly what I had told Bill—I think you're being unfair to so-and-so, and it's creating a problem. And Bill would nip it in the bud.*[676]

Horton was aware of the potential problems that could occur once Ehorn's control was removed, as she also reflected:

> *I think if this [Setnicka's behavior] went unchecked, it would have been really bad. It would have been like a cancer, and I think that's maybe what happened in the park after I left.*[677]

Setnicka, too, was aware of Bill Ehorn's authority, which he respected. In typically dramatic style, Setnicka marked the end of Ehorn's superintendency by clipping off Ehorn's tie during a crowded celebration in honor of his departure. He then held the severed cloth up to his own breast, signifying the transfer of power. Setnicka was, after all, now acting superintendent. According to witnesses, the room became uncomfortably silent as partygoers were stunned by the audacity of this gesture.[678]

Ehorn was succeeded by Charles "Mack" Shaver, whom he had met when Shaver was a backcountry ranger at Sequoia and Kings Canyon National Parks in the early 1970s. Ehorn hired Shaver in 1974 as chief ranger for Channel Islands. When Ehorn accepted the superintendency of Redwood National Park he recommended to Regional Director Stan Albright that he consider Shaver as the park's new superintendent, trusting that Shaver would continue Ehorn's own goals and vision for the park.

Shaver had left Channel Islands in 1976 and quickly climbed the management ladder, serving on the prestigious first Alaska Ranger Task Force, ultimately becoming the first superintendent of the three NW Alaska Area parks. He spent 10 years above the Arctic Circle, living in the Inuit village of Kotzebue, building consensus for the park's general management and wilderness designation plans, working on subsistence issues with the Inuit, building the parks from the tundra up including an active resource management program. In 1988, he became superintendent of Theodore Roosevelt National Park in North Dakota.[679]

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676 Ibid.

677 Ibid.

678 Marla Daily interviewed by Timothy Babalis, August 19, 2009. Transcript on file at CINP Archives, Cat. No. 35818.

679 Joanna Miller, "Channel Islands Getting New Guardians," *Los Angeles Times*, October 12, 1989; Comments by Charles "Mack" Shaver and Holly Bundock to Lary Dilsaver, October 28, 2019, text of these comments held by Chief of Cultural Resources Laura Kirn at CINP.

Upon his arrival at the park, Shaver was faced with renewing the Special Use Permit for the Vail & Vickers Ranch, initiating a development plan for NPS facilities on Santa Rosa Island, and working toward the acquisition of East Santa Cruz Island, in addition to managing park operations and time-consuming regional commitments.

The National Park Service experienced seismic changes during Mack Shaver's five years as superintendent of Channel Islands. Director Roger Kennedy reorganized the agency, reducing staff throughout the nation, changing regional boundaries and directors, and moving superintendents, all with the goal of saving money. These actions negatively affected employee morale. At the same time, House Speaker Newt Gingrich and his "Contract with America" shut down the government, which closed Channel Islands National Park for three weeks over Christmas, when the visitor center and Anacapa Island traditionally welcomed larger-than-normal visitation.[680]

Because of Kennedy's ill-conceived agency reorganization, Shaver also served as one of the principals on the Regional Leadership Committee, sitting in judgment and supporting other national park areas in the newly reorganized Pacific West Region. As a result, he worked in other parts of the country for at least a week of every month and relied on Setnicka to shoulder the management issues at Channel Islands during these times. Shaver and Setnicka had gone to college together at Colorado State University's Recreation and Forest Management School. They respected each other and their abilities, and Shaver knew, if closely supervised, Setnicka's skills and intellect could be harnessed into park achievements. However, he also knew Setnicka could be a divisive force. He told Setnicka each time he left him in charge as acting superintendent, that before making any decision, "Ask yourself whether I would do what you are even thinking of doing."[681]

One of the bigger conundrums during Shaver's tenure was how to keep park scientist Gary Davis working on park issues in light of his transfer to Secretary of the Interior Bruce Babbitt's new agency, the National Biological Survey. Marine biologist Davis had conducted important research for Channel Islands and was an integral part of the park team. With his transfer to the National Biological Survey, the National Park Service lost line authority to the scientist and his ground-breaking work. When Shaver announced that his retirement would occur in March 1996, it gave him and Regional Director Stanley Albright time to work out a strategy to bring Davis back as a park employee. The biggest hurdle was the Kennedy reorganization which made it difficult to increase the number of FTEs, or full-time positions in a park. An easy fix became apparent when Albright, who came to Ventura to work out the leadership change, asked Shaver if Setnicka should be promoted to superintendent. "Absolutely not," Shaver responded. But lacking an FTE to use for Gary Davis, the only solution would be if Setnicka vacated his assistant superintendent position to create an open FTE. Both Albright and Shaver were backed into a corner in order to get Davis back at Channel Islands. The result was Setnicka would have to become superintendent so Davis could occupy the reclassified Setnicka FTE. The deputy superintendent FTE that Setnicka had occupied was then abolished and he was named superintendent.[682]

680 Comments by Shaver and Bundock, October 28, 2019.

681 Ibid.

682 Ibid., The National Biological Survey was merged into the existing US Geological Survey on October 1, 1996.

RESOURCE MANAGEMENT IN THE 1990s

The Growth and Impact of the Inventory and Monitoring Program

Gary Davis realized that the long-term monitoring program he had initiated at Channel Islands might become a model for similar programs at other national parks and protected areas. He had proposed this as early as November 1982, when he and Carol Pillsbury, director of the Channel Islands National Marine Sanctuary, gave a joint presentation on the broader relevance of the park's monitoring program at the California Ocean Studies Symposium in Asilomar, California.[683] But it was not until Davis became frustrated with the park's inability to fund an expanded natural resources program to implement his long-term monitoring protocols that he began to seriously pursue the idea of a national program.[684] This frustration was greatly exacerbated by the reallocation of natural resources management funds to support an expanded operational capacity on Santa Rosa Island after 1986. By that time, there was growing interest at several other parks and regional offices for a servicewide inventory and monitoring program.

Later that year, Alaska Regional Director Boyd Evison convened a two-day workshop in Seattle, Washington, comprising NPS field scientists including Gary Davis, resource managers, and representatives from the US Forest Service and several universities.[685] This resulted in a draft policy statement, the "Evison Report," for developing a servicewide I&M program using Channel Islands as a model. The Evison task force emphasized the importance of collecting baseline inventory data of park natural resources and monitoring them over time. It also acknowledged a similar need for monitoring cultural resources but noted that the mechanisms for implementing a cultural resources program were already in place. The need for inventory and monitoring had long been appreciated by many resource managers who had already implemented programs in piecemeal fashion throughout the Park Service. What was lacking, according to the Evison group, was a comprehensive and systematic approach with effective policy guidance from the highest levels of NPS administration. They stated:

> *Such a system should include a Service-wide recognition of inventory and monitoring activities as fundamental, high-priority management responsibilities at each level of the organization. Successful execution of that responsibility depends on its being fully accepted and integrated into management decisions at all levels of the National Park Service.*

The group also insisted that the budget to support such a program be made as stable and long-term as the program itself, "Long-term monitoring needs must, at the earliest possible time, be base funded and closely tracked to assure the continuity on which they depend."[686]

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683 Virginia Lyle, ed., *Proceedings of the Ocean Studies Symposium*, November 1982 (San Francisco: California Coastal Commission, 1983).

684 As early as 1984, Davis suggested that the legislative mandates of the Channel Islands park bill should be "recognized as an opportunity to develop a model system for monitoring natural resources in national parks," but this fell well short of actually proposing a servicewide program. Gary Davis to Superintendent, CINP, January 31, 1984 with Superintendent's Annual Report for 1983 (February 29, 1984), CINP Archives, Cat. 13117, Box 1, Folder 5.

685 The workshop was held October 28-30, 1986.

686 Regional Director Alaska Region Boyd Evison to the Director, November 17, 1986. Pacific West Regional Office [hereafter PWRO] Library, Natural Resource files, CHIS, San Francisco, CA.

After being passed around among Park Service senior administrators and receiving their comments and modifications, the Evison Report was eventually published as the "Natural Resources Inventory and Monitoring Initiative" in 1987. The report included a strong justification for implementing a servicewide I&M program in policy, noting that legislative precedents already existed. The National Environmental Policy Act of 1969 requires managers to have adequate knowledge of resources to determine the effects of management actions. This implies the need for baseline inventories, and to the extent that effects are assessed, it also implies a degree of monitoring, if only for the duration of the management action. The Forest and Rangeland Renewable Resources Planning Act of 1974 (Public Law 93-378) set an even more explicit precedent by requiring the inventory and monitoring of economically valuable forests and rangelands under the administration of the US Department of Agriculture:

> *...the Secretary of Agriculture shall develop and maintain on a continuing basis a comprehensive and appropriately detailed inventory of all National Forest System lands and renewable resources. This inventory shall be kept current so as to reflect changes in conditions and identify new and emerging resources and values.*[687]

The roots of this legislation date back to late 19th century conservation practice with its principles of multiple-use management for sustained yields. But the means for achieving these objectives, as stipulated by the 1974 legislation, represented a novel introduction of scientific methodology to an old tradition and anticipated future inventory and monitoring programs. It not only recognized the need for comprehensive baseline inventories, but also that regular updating of these inventories required monitoring change over time.

Probably the strongest argument in support of the I&M initiative was a report submitted to the National Park Service in February of 1987 by the General Accounting Office criticizing the agency for failing to make an adequate response to its own "State of the Parks" report of 1980. That important document identified more than 300 threats facing the natural and cultural resources of 12 parks that the GAO had sampled. When it visited the same parks in 1986, it found that 80% of these threats remained unresolved and more than 40% had not even been documented. Staff members in the parks often lacked sufficient data to respond to the investigators about the threats. Although the Park Service had committed itself to implementing resource management plans for all of its national park system units in response to the 1980 report, the GAO found that most of these plans were inadequate or incomplete. The problem stemmed from insufficient funding even though the NPS budget for resource management had more than doubled during the first half of that decade.[688] The GAO criticized all of the resource management plans for lacking comprehensive baseline data on critical elements and failing to accurately measure changes in resource conditions over time. What was missing was an adequate I&M program to support resource management planning, a criticism with which the Park Service itself fully concurred.[689]

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687 Public Law 93–378, "Forest and Rangeland Renewable Resources Planning Act of 1974," Approved August 17, 1974 Sec. 5 (16 USC 1603).

688 From $44 million to $93 million between 1980 and 1984.

689 United States General Accounting Office, *Parks and Recreation: Limited Progress Made in Documenting and Mitigating Threats to the Parks; report to the chairman, Subcommittee on National Parks and Recreation, Committee on Interior and Insular Affairs, House of Representatives* (Washington, DC: General Accounting Office, 1987); and US Department of the Interior, *Natural Resources Inventory and Monitoring Initiative* (Washington, DC: National Park Service, 1987), 3. PWRO Library, Natural Resource Files, San Francisco, CA.

In response to its growing appreciation of the severity of this problem, the NPS directorate pushed forward the Evison Report's recommendations and, by the end of the year, produced a draft *Standards and Guidelines* for implementing the proposed I&M initiative.[690] This guideline was meant to be formally issued as NPS-75 to supplement NPS-77, the Natural Resource Management Guideline, but, after more than a year of peer review, the directorate concluded that the document was not adequate to provide practical guidance for implementing I&M programs at the park level. Details were not fleshed out, objectives were not clear, and standards were inconsistent.[691] Nonetheless, the National Park Service was now thoroughly committed to the goal of realizing a servicewide I&M program. Evidence of this commitment appeared in the latest revision of the NPS *Management Policies*, published later that year, which included language clearly identifying the need for inventory and monitoring:

> *The National Park Service will assemble baseline inventory data describing the natural resources under its stewardship and will monitor those resources ... to detect or predict changes. The resulting information will be analyzed to detect changes that may require intervention and to provide reference points for comparison with other, more altered environments.*[692]

This justified—in fact, it all but required—implementation of the program as a matter of policy.

At the same time, the Washington Office was discussing these ideas on the programmatic level, similar discussions were happening on a more practical level in the parks themselves. At the spring 1989 meeting of the Western Region's Natural Resources and Research Advisory Group, park resource managers proposed developing their own regional inventory and monitoring program in lieu of the servicewide program that the Washington office had not yet implemented. The obvious model for the Western Region's proposal was the program that Gary Davis and Bill Halvorson had already developed at the Channel Islands. The Advisory Group therefore appointed Davis and Halvorson to lead a team of 24 park-based scientists and managers and charged them with developing a draft "Ecological Monitoring Program" over the next few months. Team members completed the proposal by the end of summer and it served as the focal point of discussion at a workshop that they hosted at Channel Islands that September.[693] A select group of interested superintendents, research scientists, park resource managers, and representatives from both the Western Regional Office in San Francisco and the Washington office attended the workshop. Most importantly, six members of Dr. Gene Hester's staff were also present.[694]

Gene Hester was the Washington Office's Associate Director for Natural Resources and the man chiefly responsible for trying to implement Boyd Evison's proposal over the previous year-and-a-half. As already noted, the principal problem with the *Standards and Guidelines* that had been developed from the Evison Report was their lack of detail or practical utility for the real circumstances confronted by individual parks. One of the reasons for this deficiency was that the

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690 DOI, Standards and Guidelines for Natural Resources Inventorying and Monitoring (Washington, DC: NPS, 1987 [draft]). PWRO Library, Natural Resource Files, CHIS, San Francisco, CA.

691 Associate Director for Natural Resources Gene Hester to the Senior Scientist, July 25, 1988. Ibid.

692 NPS *Management Policies 2006*, Chapter. 4:4, 1988.

693 The workshop was held from the 6th through the 8th of September 1989.

694 Bruce Kilgore to Regional Director, September 15, 1989. PWRO Library, Natural Resources Files, CHIS, San Francisco, CA.

Standards and Guidelines had been developed on a conceptual level to address programmatic concerns rather than on practical realities. But here was a model that was based on an existing program at an actual park. The Channel Islands model had already inspired the original Evison Report in 1987. It lacked nothing in detail. In fact, Davis and Halvorson presented an elaborate step-down diagram that contained even more detail than the original version Davis had developed for Channel Islands in 1982 (see figure 4b). It was also demonstrably practical because it represented the experience of nearly 10 years of development at the park.

Later that year, Hester assembled a task force charged with developing a workable plan for implementing the programmatic I&M initiative based on the Channel Islands model. Gary Davis was, of course, one of the 12 task force members. Between December 1989 and March 1990, the task force developed a servicewide I&M plan. Its goals and policy statement were more or less the same as those that the earlier *Standards and Guidelines* and the Evison Report had already articulated, because the need for the I&M program was already well-established. What was unique about the new plan was the method it proposed for realizing these goals. Just as Channel Islands had discovered years earlier when it was faced with implementing section 203(a) of the park's enabling legislation, the servicewide plan acknowledged the inadequacy of existing inventory data. Not only did many parks, as well as the Park Service as a whole, lack these data, they did not have a clear sense of what they already knew and what they needed to learn about the resources they possessed. These deficiencies had to be addressed in the first phase of the program through a servicewide approach implemented in two parts: the first would be a review of literature conducted over a one-year period, the results of which would be compiled in a single electronic database. This would make it easier to access and share the data and would reveal gaps in existing knowledge. The second part would fill those gaps by implementing field surveys to collect needed baseline data. These surveys were expected to be completed over a period of 10 years. Together, the literature reviews and field surveys would constitute the inventory phase of the overall I&M program. The monitoring phase that followed would continue indefinitely.

Monitoring would be introduced in stages through a park-based, rather than servicelevel, approach. The present plan acknowledged the complaint made by reviewers of earlier proposals that each park's natural resources and physical conditions were unique and could not be addressed through a generalized methodology or a methodology developed in a fundamentally different environment. Therefore, each park or in some cases a group of parks that were closely related should develop its own monitoring protocols appropriate to local conditions. In principle, long-term monitoring could begin after the conceptual design for these protocols had been completed, peer-reviewed, and approved. However, as Channel Islands had already discovered, long-term monitoring depended on effective budgetary planning because it required permanent staff increases to maintain the program indefinitely. Inventories could be performed on a project-funded basis with temporary staff, but the monitoring phase of the I&M program needed significant base outlays from the NPS budget. Park Service leaders decided that these would be made on an incremental basis to a small group of pilot parks that could test the program. The first two pilot programs would be implemented in 1992, and two additional parks would be added every year until 1995, with a total of eight pilot parks proposed. Naturally, Channel Islands was chosen to be among the first two pilot parks in the long-term monitoring program.

In 1992, the Park Service finally published the "Inventory and Monitoring Guideline" as NPS-75. This was a Director's Order that was intended to provide detailed and consistent policies for

implementing inventory and monitoring programs servicewide. It elaborated the brief mention of inventory and monitoring in the *Natural Resources Management Guideline* (NPS-77) that had been published the previous year. The new guideline incorporated all of the details that had been learned through the development of Gary Davis's vital signs program at Channel Islands. The Channel Islands program now became a model not only for the Western Region but for the entire agency. In the 1998 National Parks Omnibus Act, Congress ordered I&M to be carried out throughout the national park system.[695]

The Growth of Natural Resources Management

As a prototype inventory and monitoring park, Channel Islands received an additional $800,000 in its 1992 and 1993 fiscal year budgets with $622,000 intended specifically for long-term monitoring and the remainder for ecosystem restoration. Although the purpose of this funding was to support Channel Islands' role in the inventory and monitoring program, the money was allocated to the resources management division to hire additional park staff to assist in long-term monitoring. With the money distributed to the resource management budget, it would be difficult or impossible to disentangle what belonged to management and what belonged to monitoring, thereby making it easier to justify the commitment of management staff time to monitoring activities. In principle, this was a reasonable way to share funding and responsibilities because all of the resource management staff were qualified to perform monitoring activities and often did so as an integral part of their management duties. But critics of this arrangement feared that it could allow inventory and monitoring funds to be diverted to other, nonresource-related purposes. Their concerns were later justified. Other parks receive I&M funds through a separate Washington-based account to prevent this form of abuse. Channel Islands remained one of the few parks where I&M funds went directly to the park's own budget.[696]

Many collateral advantages from this funding arrangement directly benefited the park. One of the most obvious was the resulting growth in the resource management division. Money allocated through the inventory and monitoring initiative allowed several new positions to be established exclusively for resources management, resulting in profound changes to the character of the park and its management priorities. Prior to 1992, the entire resource division had accounted for a relatively small percentage of the total park staff. It was managed by Kate Faulkner, who replaced Frank Ugolini after he retired in 1989, and included archeologist Don Morris, marine biologist Dan Richards, seabird biologist Trudy Ingram, and temporary wildlife biologist Carmen Lombardo, who had been hired in 1990 to oversee the eradication of feral hogs on Santa Rosa Island. The resources division also shared secretarial assistance with other programs in the park and used project-based funding for seasonal technicians on a year-to-year basis. In addition to the resource management staff, the park also benefitted from Gary Davis as marine biologist and William Halvorson as terrestrial biologist to fulfill the research mandate of the park's enabling legislation. They technically worked for the NPS Western Regional Office out of the Cooperative Park Studies Unit at the University of California, Davis. This setup was to clearly delineate and separate research science from park management advocacy, to prevent conflicts of interest on the part of park managers and to facilitate sharing limited scientific

695 Section 204, An Act to Provide for Improved Management and Increased Accountability for Certain National Park Service Programs, and for Other Purposes. Public Law 105-391, "National Parks Omnibus Act," Approved November 13, 1998, 112 STAT. 3497.

696 Conversation between Ray Sauvajot and Timothy Babalis, August 1, 2009; Gary Davis interviewed by David Louter, June 11, 2007. Transcript on file at CINP Archives, Cat. 30177.

expertise among parks in the region. Since they worked closely with the resource managers, there was little apparent distinction between the research and resource management divisions in the park.

Following the budget increases of 1992, the resource management division grew dramatically to include more than a third of all base-funded positions.[697] By 1995, the resources management division comprised 16.4 FTE (full-time equivalent positions), out of the park's total of 46.5 FTEs. The actual personnel increase appears even more dramatic when seasonal and temporary positions are considered, making the division the most visible component of the park. But it also became increasingly dominated by a natural rather than cultural emphasis. In addition to the existing natural resources positions, which were largely marine-oriented, the park hired terrestrial biologist Tim Coonan to develop a land-based program. He was assisted by botanist Sarah Chaney, whose position was permanently established through base funding, and wildlife biologist Carmen Lombardo, whose position was converted from temporary project funding to permanent base funding. The terrestrial biology program had sufficient project funding during its first year to hire four seasonal biological technicians as well. Also hired in natural resources on a permanent basis were ecologist Linda Dye and, on a term basis, a GIS specialist to support natural resources mapping initiatives. Dan Richards' marine biology program received more project funding to support one full-time marine biologist, David Kushner, and four seasonal biological science technicians. The park also hired a project-funded range conservationist to develop a range management plan for the newly acquired ranch lands on Santa Rosa Island. With all of the additional resource management staff, a new building had to be leased in the Ventura Marina, the second such expansion since the completion of the park headquarters just over a decade earlier.[698] The research positions of Gary Davis and newly arrived Kathryn McEachern, who replaced Halvorson, were officially transferred from the National Park Service to the newly established National Biological Survey in 1993, but this had little effect on their duties or where they worked. Both remained at Channel Islands and continued to direct park-based science as before.[699]

Unlike natural resources, the cultural resources program remained stable with archeologist Don Morris as the only permanent employee. Annual project funding enabled the park to hire four seasonal archeological technicians to conduct surveys on Santa Rosa Island, and one temporary historian to research historic shipwrecks for the park's "Submerged Cultural Resources Assessment," which was published a few years later. The growing imbalance in FTEs between natural resources and cultural resources, as well as other divisions in the park, was natural given that the funding increases for that year went largely to the inventory and monitoring program. However, it also continued a trend that had been evident since Channel Islands' earliest days, when the protection of marine natural resources, especially pinnipeds, played a dominant role in the administration of the monument. This did not necessarily result in conflict, but it did lead the park to focus on the management and restoration of natural environments at the occasional

697 Superintendent's Annual Report (March 10, 1993), CINP Archives, Cat. 13117, Box 1, Folder 8; NPS, Channel Islands National Park: Resources Management Plan, 1994 (Ventura, CA: NPS, CINP, 1994).

698 Superintendent's Annual Report for 1992 (March 10, 1993), CINP Archives, Cat. No. 13117, Box 1, Folder 8. This particular report, by Mack Shaver, is extensive and provides much detail on expansion of the resource management program.

699 NPS, Resource Management Plan, 1994; Dan Richards recalled "For a time, it was suggested that all of the (new) I&M staff would go into the new NBS rather than the NPS creating a lot of uncertainty and confusion about how the structure and funding of the resource management program would end up." Dan Richards communication to Lary Dilsaver, October 17, 2019.

expense of cultural ones. One result of this imbalance was that the park gave less attention to the precontact archeology of some of the most significant sites in North America.[700]

The park's predominant focus on natural resource protection reflected a growing professionalism of the resources division that had begun even earlier. Another was the increasing sophistication of scientific research that both caused and accompanied it. The I&M program was one expression of this. Another was the decision to hire Kate Faulkner in 1989 to head the resource management program. Not only was Faulkner a highly qualified biologist, she brought levels of commitment and intensity to the resources program that were unprecedented in the park's history. She was hired by Superintendent Mack Shaver, who already knew and respected her work after serving with her on a previous duty in Alaska. In early 1990, Faulkner entered on duty as chief of resources at Channel Islands. This was an integrated position, meaning that Faulkner was responsible for cultural as well as natural resources.

Because Faulkner was trained as a natural scientist, she delegated most of the cultural resource management to Don Morris. This allowed her to focus on natural resource issues. The influx of new staff in 1992 supported this emphasis but Faulkner's approach toward restorative resource management was opposed by some of the other park staff members. The most stubborn opposition came from Tim Setnicka, who at that time was assistant superintendent but later became superintendent. Setnicka objected to the growth of the resource division, which he believed was excessive and unnecessary. He was reprimanded later for transferring funds allocated for resource management to operations, justifying the fears of those who wanted I&M funds to be isolated from the park budget. As an experienced biologist, Faulkner emphasized ecosystem restoration and the removal or eradication of nonnative species. These concerns led her to question the existing special use agreement with Vail & Vickers on Santa Rosa Island. That, in turn, brought her criticism from and conflict with the Vails and with Setnicka.[701]

The 1994 Resources Management Plan

By the mid-1990s, the park's existing General Management Plan, completed 10 years earlier, was considered dated, and the park administration identified its revision as a high priority.[702] A Resources Management Plan is an integral part of any general management plan, so park officials also proposed to draft a new one. Channel Islands' first RMP dated to 1980 and had been written as an addendum to accompany the first GMP.[703] The 1984 revision reflected the expanded resource base of the new park but was limited by the restricted access then available to park staff on Santa Cruz and Santa Rosa Islands. In order to address new knowledge and important changes in resource management objectives since the acquisition of Santa Rosa Island and the pending acquisition of Santa Cruz Island, the park initiated the new RMP in the early 1990s, with a final draft approved by the regional directorate in 1994. According to the plan:

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700 Michael Glassow, "The Occurrence of Red Abalone Shells in Northern Channel Island Archeological Middens: Implications for Climatic Reconstruction," in F.G. Hochberg, ed. *Third California Islands Symposium: Recent Advances in Research on the California Islands* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1993) 567-576.

701 See chapter seven.

702 The NPS did not receive funding for a new GMP until 2000. The Record of Decision for the final GMP was signed in 2015.

703 DOI, Natural and Cultural Resource Management Program: An Addendum to the General Management Plan for Channel Islands National Park (Denver, CO: Denver Service Center, National Park Service, 1980).

> *The purpose of the RMP is to identify and describe specific inventory, monitoring, research, restoration, and mitigation actions which are needed to understand and protect natural and cultural resources in the park...The RMP sets priorities for park programs and projects and provides a rationale for allocating funding and staff. The plan includes all work that the park has identified as being of high priority to accomplish in the near future."*[704]

This list of objectives was consistent with servicewide standards but also the enabling act's explicit stipulation about protecting the islands' habitats. Inventory, monitoring, and research assumed an understandably prominent place given the park's role as a prototype in the I&M program. Similar emphasis given to restoration and mitigation actions, however, were indicative of how the resource management division understood the park's unique purpose and objectives. This was expressed even more succinctly in Kate Faulkner's annual report to the superintendent at the same time. She wrote, "the role of the Resources Management division is to increase knowledge of the natural and cultural resources, and to predict the impacts of actions on those resources; restore natural systems which have been altered by European peoples; mitigate damage to natural and cultural resources; and maintain natural systems which require human intervention in order to duplicate natural events which no longer occur.[705] The emphasis fell on restoration of natural systems.[706] Underlying this emphasis was the knowledge gleaned from the I&M program that much of the islands' native habitat was already degraded or greatly imperiled. The RMP stated that, "the priorities for the park reflect a balancing of crisis situation, especially with nonnative plants and animals, which need immediate attention, and building the resource information base necessary to manage the park with sufficient vision and understanding to minimize the creation of future crisis situations."[707] This perception of a biological emergency was borne out by the island fox crisis a few years later. The evidence from the Vital Signs (I&M) program strongly supported ecosystem restoration by this time.

One change in resource management that took place on San Miguel Island probably affected visitors more than the resource. The National Marine Fisheries Service and the National Park Service studied the pinniped viewing areas at Point Bennett to make sure that the animals were not disturbed by noisy or visible people. The National Marine Fisheries Service decided to restrict visitors to a new viewing location farther away from the hauled-out pinnipeds. The former viewing area was close to nest sites for gulls and the scientists believed that people might disturb the gulls and start a cascade effect whereby frightened birds would disturb the pinnipeds. Groups of up to 15 people would be allowed at the new visiting site although the ranger leading them could reduce that number depending on the visitors' behavior. Later, the standard number of visitors was reduced to 10.[708]

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704 NPS, Resource Management Plan 1994, 5.

705 Superintendent's Annual Report for 1993 (April 19, 1994), CINP Archives, Cat. 13117, Box 1, Folder 8. The Leopold Report points out that the period of European contact and settlement was a time of rapid and substantial change in natural ecosystems and cultures. While not perfect, European contact has been a rough indicator of the period when ecological changes overwhelmed populations of some species and greatly disrupted ecosystems at a rate not seen for thousands of years.

706 The baseline or reference condition is ambiguously defined as just prior to European contact.

707 NPS, Resource Management Plan 1994, 52.

708 E. C. Fullerton to Mack Shaver, July 1, 1991, CINP Archives, Acc. 00304, Cat. 10145, Box 1, Folder 3.

Fire Management

Fire has been a factor in the Channel Islands since well before humans arrived. Research at San Nicolas Island showed that at least 24 major fires occurred between 25,000 and 37,000 years BP. These wildfires were less frequent than on the mainland, happening every 300 to 500 years, and far less frequent than once humans arrived at least 13,000 years ago.[709] Despite burning by ancient people, fires remained less frequent than on the mainland owing to the discrete island landmasses, a cooler, more maritime climate, and the frequency of fog. When scientists and resource managers came to the islands, they had two separate research agendas—determining the fire regimes of the past to understand the evolution of the islands' ecosystems and calculating how to cope with the changes that would come with eradication of nonnative ungulates. Sediment cores on Santa Cruz and Santa Rosa Islands have shown that fires happened between one and nine times over the millennium prior to the arrival of American's some 160 years ago. Thereafter, the introduction of sheep, cattle, and other grazers partially offset human-caused fires to further complicate the sequence. The introduced animals reduced vegetative cover and transformed the vegetation communities on the islands. Nonnative plants, particularly annual grasses, replaced shrubland and woodland communities.

As animals reduced the vegetative cover, natural ignition diminished but human behavior led to more frequent burns. Santa Barbara Island seems to have suffered the greatest impact. Between 1917 and 1921, the island was burned every year to clear land for agriculture. Two large fires also occurred on the small island, one in 1959 that burned 400 acres and another in 1976. The latter torched even more land and, along with feral cats, is blamed for the extinction of the Santa Barbara Island song sparrow. The largest fire in history on one of the five park islands occurred on the north shore of Santa Cruz Island on lands now managed by The Nature Conservancy. It consumed 7,575 acres in 1932. The largest fire on lands the park now manages was accidentally ignited on San Miguel Island on November 1, 1967, by a navy flare and burned an estimated 3,200 acres. Another on San Miguel charred 650 acres on January 22, 1976.[710]

After the park was established in 1980, and as part of the requisite land planning, Superintendent Bill Ehorn contacted Carey Stanton and the Vails on the two privately owned islands to secure their permission for Santa Barbara County fire crews to access their property in case of fire. This was the opening step in a planning process to develop an official fire management plan as required of all units in the national park system.[711] The private owners submitted their permission statements, but legal confusion delayed implementation when first the county and then the State of California refused to take the lead role in fire suppression on the private islands. Ehorn and others pointed out that Santa Cruz and Santa Rosa Islands were within the park's boundary and eventually agreements were signed for cooperating in fire suppression, but problems lingered. By 1984, Chief Ranger James F. Martin wrote to Robert Alvord of Los Padres National Forest suggesting a meeting to address the fire issue. It took until 1993 for an

709 Jeffrey S. Pigati, John P. McGeehin, Gary L. Skipp, and Daniel R. Muhs, "Evidence of Repeated Wildfires Prior to Human Occupation on San Nicolas Island, California," Monographs of the *Western North American Naturalist* 7, 2014, 35–47.

710 CINP, "Wildland Fire Management Plan 1989 Season," January 26, 1989, CINP Central Files, 1.A.2., Cultural/Natural Resource Management Program/Planning, Folder "Wildlife Fire Management ('89-'82), A1.

711 Robert Arnberger acting for William Ehorn to Carey Stanton, October 12, 1982, Ibid., William Ehorn to Al and Russ Vail, November 23, 1982, Ibid.

interagency agreement to be adopted by the park and Los Padres National Forest giving the park a more dependable partner in case of fire on the islands.[712]

In 1988, the park received $2,500 to accelerate planning and preparation for its fire program and in July 1989 a group of fire management specialists visited the three larger islands to survey the fuel loads and help design a startup fire management program. The team emphasized the importance of this program because of the ongoing ecological restoration plans stating:

> *The visit and the emphasis on developing a Fire Management Plan are very timely because a radical change in fuel conditions is imminent, albeit planned, for most areas of the islands. Many decades of heavy domestic livestock grazing and foraging is coming to a negotiated end as the park takes ownership and progressively assumes resource management emphasizing natural plant communities. Although the removal of grazing will not readily return the vegetation to prehistoric conditions, the regrowth of the existing plants, especially grasses, will be very rapid. From limited information on one large animal enclosure, it is clear that even a poor growing will produce a substantial, largely uninterrupted fuel mosaic capable of supporting fires of moderate to high intensity with high rates of spread.*[713]

After two more years of planning and study, the National Park Service released a "Fire Management Plan" as an amendment to the natural resource management plan of 1982. Two major decisions shaped the plan's policy. First, the response to fires, both natural and caused by people, would be total suppression. This was to be an "interim policy" until restoration of the native ecosystem had reached the point where "fire use" would be consistent with its survival. Planners recognized the detrimental effects of fire suppression on archeological sites and some vegetation but argued it would continue until research brought a better understanding of its impacts on both natural and cultural resources. The other decision was consistent with the overall policy of the National Park Service in performing prescribed burns under carefully monitored weather and fuel conditions to reduce the fuel load. The goals of the plan in descending order of priorities were to: prevent the loss of human life; prevent damage to park facilities and property owned by visitors and island owners; and ensure that the fire programs protect natural, cultural, and historical values of the park. The objectives of the plan in descending order of priorities were to: maintain an active fire suppression program capable of responding to 90% of the fire starts in the park; create an interpretive program to reduce "person-caused" fires; protect cultural resources; protect threatened and endangered plant and animal species from damage by a fire or by suppression methods; maintain a park fire committee; and provide training to personnel.[714]

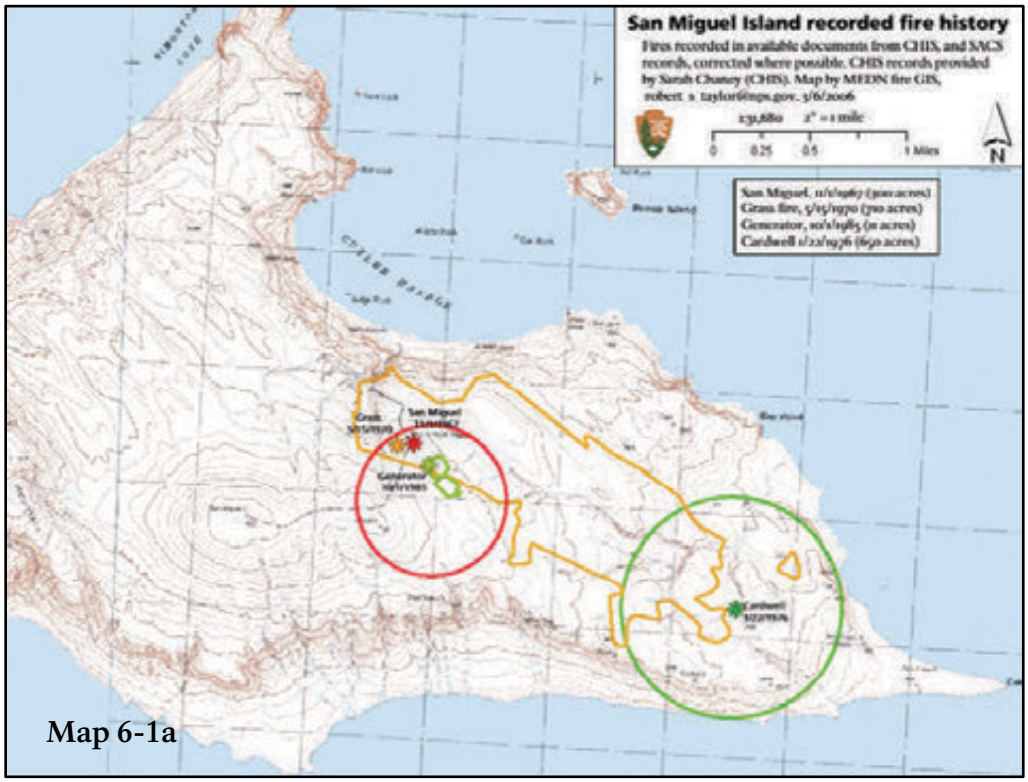
During the 1980s and early 1990s, several fires broke out on the islands but none posed a major threat. In 1985, a 15.5-acre fire occurred on San Miguel Island. Two years later the first lightning-caused fire in more than 30 years ignited on TNC/Carey Stanton property. The latter was suppressed by Bill Ehorn and his crew at the request of Stanton. In 1989, two small fires began on Santa Cruz and Santa Rosa Islands but were quickly suppressed. Another caused by human error erupted on Santa Rosa in 1994. Prescribed fires were part of the plan but the first

712 CINP, "Interagency Agreement between the National Park Service and United States Forest Service Los Padres National Forest," June 11, 1993, CINP Archives, Cat. 13117, Acc. 00401, Box 3, Folder 5.

713 Fire Management Specialists to Chief, Branch of Fire Management, July 20, 1989, Ibid.

714 CINP, "Fire Management Plan," November 1991, CINP Library.

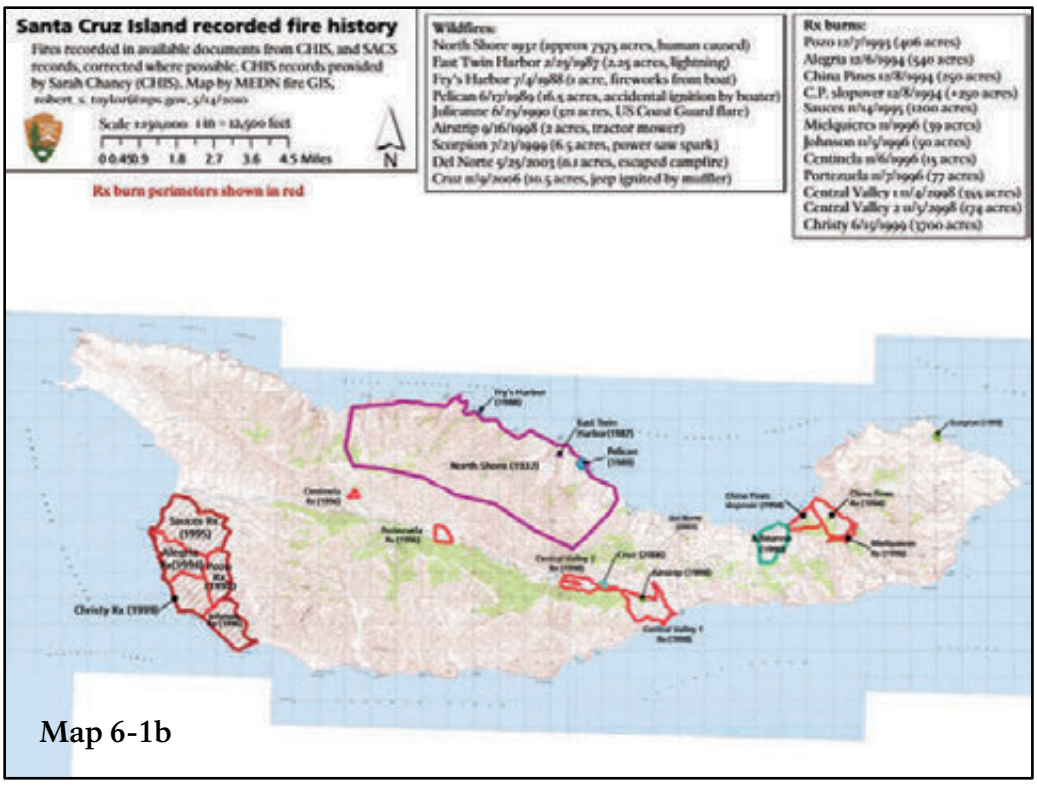
two deliberate burns were on TNC property on West Santa Cruz Island with approval by the National Park Service in 1993 and 1994.[715] During the 1990s, TNC conducted 12 prescribed burns on its property with most concentrated in the lower Central Valley and near Christy Ranch. Yet 1997 brought scrutiny and controversy to the prescribed fire procedure when the park released a plan to burn 600 acres including Old Ranch Canyon on the eastern portion of Santa Rosa Island. This came amidst the most intense controversy over grazing on the island and the fate of Vail & Vickers operations there. The Park Service secured the approval of the US Fish and Wildlife Service because the burn would include an area occupied by Santa Rosa Island live forever (*Dudleya blochmaniae* ssp. *insularis*) a rare endemic perennial. Fortunately, the plant does not show above ground during mid to late June, the window of time planned for the burn. The National Park Service issued a FONSI (Finding of No Significant Impact) on June 16, 1997 and carried out the burn which grew to 812 acres.[716]

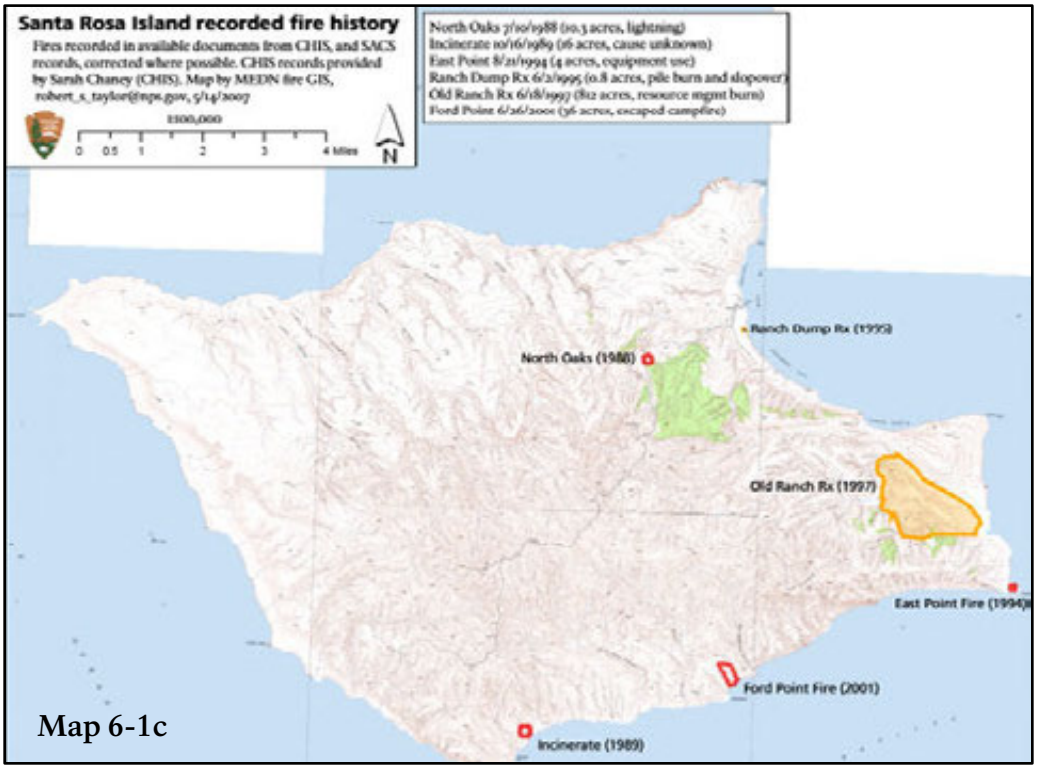


Map 6-1a

715 CINP, "Superintendents Annual Reports," CINP Archives, Cat. No. 13117, Box 1.

716 Tim Setnicka to Vail & Vickers, March 7, 1997, CINP Central Files, 1.A.2 Fire Management Range, "Cultural/Natural Resource Mgmt. Program/Planning"; Acting Field Supervisor, Ventura Fish and Wildlife Office to Superintendent, Channel Islands National Park, June 16, 1997, CINP Central Files, 1.A.2. Folder "Wildland Fire Management '06-89"; John J. Reynolds to Superintendent, Channel Islands National Park, June 16, 1997, CINP Archives, Acc. 304.4, Cat. 10145, Folder 79.





Maps 6-1a, b, and c. Fire histories for San Miguel, Santa Cruz, and Santa Rosa Islands. Provided by Derrek Hartman, Fire Management Officer, Santa Monica Mountains National Recreation Area.

Source: Provided by Derrek Hartman, Fire Management Officer, Santa Monica Mountains National Recreation Area.

In the early 1990s, Channel Islands National Park and Santa Monica Mountains National Recreation Area began sharing a fire management officer, who oversees preparation of fire management plans, coordinates with the parks' chief rangers and resource management staff regarding interagency agreements for wildland fire response, and assists with vegetation management for fire prevention, among other duties. The two parks' fire management officer spends approximately one day per week at Channel Islands and supervises other fire staff at Santa Monica Mountains who also assist with fire management at Channel Islands.

INTERAGENCY COOPERATIVE MANAGEMENT OF MARINE RESOURCES

One of the early results of the I&M program was its contribution to evaluating ecosystem integrity in the sea around the Channel Islands.[717] Kelp forests provide important habitat for a rich array of other marine life, supporting more than 750 species of fish and invertebrates.[718] California's world-renowned giant kelp forests rise from depths of 80 to 100 feet (25–30 meters) over rocky reefs and cover thousands of acres in the park with canopies like those of tropical rainforests. The thick kelp canopy acts as a shelter from predators and nursery habitat for juvenile fish. It was these giant kelp forests that were identified in the park's enabling legislation as a reason for establishing the park. The density and extent of giant kelp (*Macrocystis pyrifera*) around the park islands is a result of suitable rocky substrates around the islands. The giant kelp that appears in the intertidal zone is only drift, broken from the parent plants by storms or boat propellers.

Commercial and recreational fishing strongly affects several types of popular marine animals. Proper management of their populations is a vital responsibility of the State of California and careful monitoring by the National Park Service is key to exercising it. The California spiny lobster is one of the most important and recreationally popular fisheries. Although it is an important component of the park's marine environment, the spiny lobster's apparent resilience made it an object of lesser concern for park scientists. Yet, despite its relatively healthy populations, scientists have observed significant fluctuations in the past. The species is at the northern edge of its geographic distribution in the park. The major source of larval production is far to the south in Mexico, but the larvae can travel thousands of miles over periods of up to nine months before settling into a benthic existence where they can grow to a marketable size. Urban coastal development on the mainland destroyed much of its littoral kelp habitat and raised concern because declining mainland availability might have intensified island lobster

717 "Ecological integrity describes the quality of ecosystems that are largely self-sustaining and self-regulating. Such ecosystems may possess complete food webs, a full complement of native animal and plant species maintaining their populations, and naturally functioning ecological processes such as predation, nutrient cycling, disturbance and recovery, succession, and energy flow." National Park System Advisory Board Science Committee, "Revisiting Leopold: Resource Stewardship in the National Parks." August 25, 2012. In: Lary M. Dilsaver, *America's National Park System: The Critical Documents*, 2nd edition (Lanham, Maryland: Rowman & Littlefield, 2016) 450.

718 Schoenherr, Allan A., C. Robert Feldmeth, and Michael J. Emerson. *Natural History of the Islands of California*. (Berkeley: University of California Press, 1999) 104-05.

exploitation by fishermen.[719] In spite of such normal fluctuations, spiny lobster populations in the park have not yet shown signs of stress from overharvesting to date.

Abalone, however, have suffered a very different fate. Six species of abalone have occurred naturally in the national park waters. California's abalone species suffered serial depletion beginning when red abalone (*Haliotis rufescens*) landings began steep declines in the 1950s, followed by landing declines of pink abalone (*H. corrugata*) in the 1960s, green abalone (*H. fulgens*) by the early 1970s, and white abalone (*Haliotis sorenseni*) by the time monitoring protocols were implemented by the park in the 1980s. Based on data from landings by commercial and sport fishermen, the period of greatest decline for white abalone occurred during the 1970s, after depletion of the shallower abalone populations.[720] The availability of SCUBA gear following World War II, along with innovations such as neoprene wet suits and repetitive dive tables in 1957, made this relatively deep-water species more easily accessible. The full extent of the fishery's impact, however, was not recognized for some years until monitoring revealed the abundance, distribution, and relative size of the surviving population in its natural environment.[721]

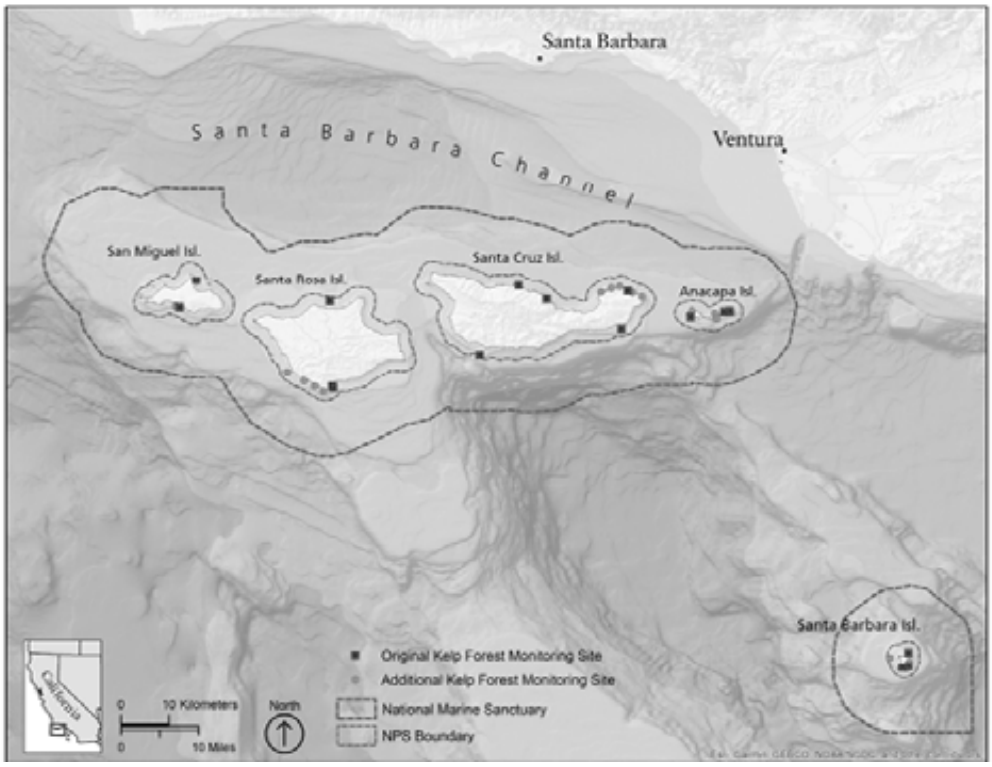
The I&M that began in 1982 consisted of a sampling process designed to measure changes in population dynamics of a suite of more than 70 marine species that inhabit the kelp forest ecosystem. It revealed population abundance, distribution, and size structure in addition to presence or absence. In 1985, long-term monitoring of the rocky tidal ecosystem expanded beyond Anacapa to San Miguel, Santa Rosa, and Santa Barbara Islands. The expansion included the establishment of 40 fixed plots to monitor black abalone in the lower intertidal zone. Each plot measured approximately 10 square feet (3 square-meters) and was monitored every spring and autumn by park resource staff. Along with fixed photo-plots to monitor key algae and sessile invertebrate organisms, researchers measured abundance and sizes of black abalone in the larger plots.[722]

719 William N. Shaw, "Spiny Lobster," US Fish and Wildlife Service Biological Report 82(11.47), April 1986. Shaw notes that commercial landings of California spiny lobster steadily declined during the 1960s and early 1970s, reaching their nadir in 1974 before gradually beginning to increase once more. And yet distributions and abundance of kelp did not respond (i.e., increase) to the changes in lobster abundance during those years that would have been expected if lobsters were a limiting factor of kelp abundance.

720 White abalone occur at depths as great as 197 feet (60 meters), where the majority of the surviving population is presently found. Historically, they may have occurred in water as shallow as 16.4 feet (5.0 meters), but these populations would have been the first to suffer from overharvesting.

721 US Department of Commerce, Recovery Plan for White Abalone (*Haliotis sorenseni*) (Long Beach, CA: National Marine Fisheries Service, 2008).

722 Scientists also monitored other species that occupy the same habitat and share a close ecological relationship to the abalone such as sea stars (*Pycnopodia helianthoides*) which prey on them, sea urchins (*Strongylocentrotus purpuratus* et al.) which compete with them for food, and kelp, the abalone's principal food source.



Map 6-2. Kelp monitoring sites in Channel Islands National Park in 1984 and those added during subsequent years.

Source: Cartography by Rockne Rudolph, Channel Islands National Park.

Researchers also sampled red and pink abalone in the subtidal kelp forest conducting 12 randomly selected 10 by 65 feet (3 by 20 meter) band transects at each of the kelp forest monitoring sites each year.[723] Over four consecutive years of monitoring, park staff observed that black abalone abundance fell by as much as 96% at four of the islands, although only 39% off San Miguel; red abalone fell by 97%–98%; and pink abalone fell by 51%–94%. These numbers far exceeded the range of natural population variance and suggested anthropogenic causes. Fishery take was capable of reducing population densities of adult, breeding abalones to such low densities that reproductive collapse could cut off the supply of juveniles to unsustainable levels given the capacity of the fishing fleet and market demand.[724]

NPS scientists Gary Davis and Dan Richards and California Department of Fish and Game scientists Peter Haaker and David Parker hypothesized that a variety of factors, some natural and some human, had conflated to bring down the abalone populations. Human take of abalone reduced the reproductive capacity of populations and their resilience to withstand cyclical warming of the sea and the subsequent loss of kelp as a food source. In 1957, mystified oceanographers recorded a period of much warmer than normal water in the Santa Barbara Channel and along all the Southern California Coast. Later, the phenomenon was identified as

723 Data provided by Gary Davis to Lary Dilsaver by e-mail June 13, 2018.

724 Gary E. Davis, Daniel V. Richards, Peter L. Haaker, and David O. Parker, "Abalone Population Declines and Fishery Management in Southern California," in *Abalone of the World: Biology, Fisheries and Culture*, eds. S. A. Shepherd, Mia J. Tegner, and S. A. Guzman del Proo (Cambridge, MA: Blackwell Scientific, 1992).

an El Niño. It was the most severe case of this recurrent phenomenon in the 20th century to that point. However, an equal or greater episode occurred in the Channel Islands region between 1982 and 1984. It brought exceptionally warm waters and severe winter storms to the California coast. The storms swept away much of the kelp forest on which the abalone depended for food and habitat, while the warmer waters encouraged a proliferation of sea urchins. Both abalones and sea urchins were impacted the same way by food reduction, but in addition to loss of food, small purple sea urchins were released from competition by human take of their primary competitors, red sea urchins and abalone, and released from predation by human take of fishes and lobsters. This allowed purple urchins to dominate the benthos and graze virtually all macro algae, including giant kelp. Warm El Niño waters were also nitrogen poor and prevented robust growth of kelp needed to support recruitment of juvenile abalone and hindered the regeneration of the kelp forests. The resulting lack of adequate food resources may have caused the abalone to starve. Each one of these factors, and possibly others as well, contributed to the abalone's sudden collapse, but ultimately, the scientists believed, it was human agency that made the species unusually vulnerable to this chain of natural events by destabilizing the marine ecosystem in which the abalone lived.

White abalone, which were not directly monitored because their deep-water habitat was generally beyond safe diving limits, were no longer being seen on survey dives. Special efforts were made by the kelp forest monitoring crew to find white abalone and the scarcity was alarming. Although direct harvesting of white abalone by commercial and sport fishermen may have exacerbated the abalone's decline, reducing pre-1980s populations to the point where a natural chain of events could prove devastating; harvesting was only part of the problem, and regulating the take of individual species by fishermen would not have prevented it. Despite robust efforts to regulate the fishery, including a prohibition on fishing during the spawning season, bag limits for recreational fishermen, limited entry to fishing areas, and permit fees, the species continued to decline until fewer than 2,000 adult individuals remained by the end of the 1980s. CDFG had to close the fishery entirely in 1996 to prevent the species' extinction.[725]

What was "upset" in this case was the integrity, resilience, and capacity for renewal of the ecosystem. The abnormally long recovery time for the black, red, and pink abalone following the El Niño years seemed to confirm the scientists' suspicion that the ecosystem itself was now far more vulnerable to catastrophic but short-term natural events than it would otherwise have been. Davis and Richards observed that:

> *...there are strong indications that stochastic physical environmental factors, such as storms, now appear to be the principal agents of change in this system, rather than the biological components which previously buffered the system against extreme, long-lasting fluctuations. The reduction of this buffering capacity and subsequent shift of control from probabilistic biological factors to unmanageable deterministic physical factors, paradoxically, will make the system more predictable but less manageable.*[726]

Davis argued that management objectives had to be reoriented to address the entire ecosystem rather than individual species, since it now seemed clear that the declining populations of the latter were not isolated phenomena but symptoms of the declining resiliency of the environment

725 *Recovery Plan for White Abalone*, 2008.

726 "Abalone Population Declines and Fishery Management in Southern California," 1992.

itself. This realization became an important justification for the establishment of much stronger marine protected areas, based on the national marine sanctuary that already existed, but with greater authority to restrict access and regulate use.

By the end of the decade, Gary Davis actively pursued this idea through a proposal to establish "marine harvest refugia"—no-harvest zones—within the boundaries of the national park and national marine sanctuary.[727] Although Davis conducted a multi-year study of this idea with funding from the State Department's *Man and the Biosphere Program*, the refuge itself was never implemented. The Man and the Biosphere Program-funded project was designed to test the viability of concentrating adult abalone in historic densities in a protected area to promote reproduction as a population recovery strategy.[728] One thousand adult pink abalone were procured from a live abalone wholesaler and placed in the marine protected area on East Anacapa Island, below the island ranger's quarters to ensure maximum surveillance. The California Abalone Association, a political lobbying group of commercial abalone divers, strongly opposed the project and it terminated after one year. Virtually all of the transplanted abalone disappeared in a few months thereafter. However, a simultaneous project to create a network of marine reserves in the park protecting park waters from fishing using State of California legal authority did succeed.

This evolution in resource policy objectives from managing for individual species to managing entire ecosystems was one of the more immediate and significant results of the I&M program at Channel Islands. It had demonstrated the inadequacy of existing regulation of the abalone fishery based on harvest limitations alone, and it provided crucial data about the condition of the broader environment which helped to explain why those regulations were not working. The I&M program also proved its value as an early detection system, alerting resource managers to the sudden decline of the abalone populations even as it was happening. A final, tragic confirmation of the value of early detection through systematic monitoring came in 1986 with the discovery of a withering syndrome in black abalone. This resulted from invasion by a pathogen that causes the fleshy body of the abalone to shrivel up inside its shell, usually resulting in death. Marine biologist Dan Richards later noted that although the pathogen was initially thought to be exotic, it

> *is suspected of being endemic to California and just not previously virulent for some reason. There was an invasive worm that caused abnormal growth, that was introduced with abalone brought into aquaculture facilities that demonstrated the need for monitoring for such things, but this pathogen was not thought to be introduced.* [729]

Although monitoring could do nothing to prevent this disease, it did alert resource managers early on to the existence of the problem and allowed them to identify regulatory measures to

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727 Gary E. Davis and Jenifer E. Dugan, "Biosphere Reserves as Marine Harvest Refugia," Channel Islands National Park and Biosphere Reserve, April 27, 1990; written correspondence, Bruce Kilgore to Stanley Albright, n.d., PWRO, Natural Resource Files, CINP, "Marine Refugia," San Francisco, CA.

728 Both CINP and the surrounding National Marine Reserve became a unified Biosphere Reserve in 1986 with approval by the US State Department and UNESCO.

729 Dan Richards comments to Lary Dilsaver, October 17, 2019; The pathogen is a Rickettsiales-like prokaryote that infects gastrointestinal epithelia. It was tentatively named *Xenohaliotis californiensis*. C. S. Friedman et al., "Candidatus Xenohaliotis californiensis gen. nov., sp. nov., A Pathogen of Abalone, Haliotis spp., Along the West Coast of North America," *International Journal of Systematic Evolutionary Microbiology* 50 (2000): 847-855.

protect surviving black abalone and other abalone species that were also affected by the syndrome.

Unfortunately, the California Fish and Game Commission failed to heed the early warnings. It protected surviving black abalone populations only after they had declined to critically low densities, closing fisheries only after the populations had collapsed, island by island, over a period of years. Monitoring made it possible for scientists to follow the course of the epidemic disease from the moment of its earliest expression and would assist them in understanding its nature and how it might ultimately play out.[730] Too late, the National Oceanic and Atmospheric Administration, which has the authority to apply the Endangered Species Act for fish and marine invertebrates, issued a rule in early 2009 to list the black abalone under that law.[731]

Establishment of State Marine Reserves

Despite the designation of Channel Islands National Marine Sanctuary in 1980, the status of marine resources was poor by the late 1990s as demonstrated by nearly two decades of vital signs monitoring data. The proclamation that established the national monument in 1938 declared, "Warning is hereby expressly given to any unauthorized persons not to appropriate, injure, destroy, deface, or remove any feature of this monument and not to locate or settle upon any of the lands thereof." However, it did not explicitly include the marine resources within the one-mile sea boundaries added around Anacapa, Santa Barbara, and San Miguel Islands in 1949. An amendment to the *Code of Federal Regulations* in 1973 redressed that shortcoming. The 1978 Supreme Court case that gave California the right to manage within three miles of the islands' shores then negated that protection. Nevertheless, the CDFG agreed to maintain some reserved areas but not to the depth that the National Park Service had protected. The state agency also cooperated in the efforts to monitor kelp forests and other marine resources once the national park and marine sanctuary were established. Over the rest of the 20th century, the monitoring program operated with academics, independent scientists, and volunteers from the fishing and diving communities compiling data on the dire decline. Between 1980 and 1998, the park waters lost 80% of its kelp forest and four of the five abalone species that once inhabited park waters. The data from monitoring showed that protection of habitat and water quality alone had not sustained ocean ecosystems or fisheries.[732]

In 1978, the CFGC established a closed area on the north side of Anacapa Island with the support of the National Park Service. That ban on fishing protected lobsters, fish, sea urchins, and other species living on the rocky reefs and kelp forests of the area. Subsequent monitoring begun in 1981 by Gary Davis and carried out for two decades showed that kelp forests were denser and lasted longer, lobsters were more plentiful, and sea urchins were larger than in

730 Peter L. Haaker, et al., "Mass Mortality and Withering Syndrome in Black Abalone, Haliotis cracherodii, in California," in S. A. Shepherd, Mia J. Tegner, and S.A. Guzman del Proo, *Abalone of the World: Biology, Fisheries and Culture*, eds. S.A. Shepherd, (Cambridge, MA: Blackwell Scientific, 1992); James D. Moore et al., "Withering Syndrome and Restoration of Southern California Abalone Populations," *CalCOFI Reports* 43 (2002) 112-117.

731 US Dept. of Commerce, National Oceanic and Atmospheric Administration, "Endangered Status for Black Abalone," *Federal Register* 74 (9) January 14, 2009, 1937-1946.

732 Gary Davis, "Science and Society: Marine Reserve Design for the California Channel Islands," Report to the NPS, n.d., provided by Davis to Lary Dilsaver, September 3, 2018; Recovery Plan for White Abalone, 2008; CFR 7.84, 1973.

unprotected areas nearby. In 2002, the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), a consortium of scientists from four universities[733] reported that:

> *The ecosystem protected in the Anacapa Island reserve now contains most of its animals and plants in a relatively natural state. The populations in the reserve remain more stable over time than those outside the reserve, because interactions among species are not affected by fishing. Lobster and California sheephead protected inside this reserve feed on sea urchins, thereby keeping urchin numbers in check. Reduced numbers of urchins allow stands of kelp to flourish, which in turn support many other species inside the reserve. In contrast, outside reserves where lobster and sheephead are fished, large numbers of urchins periodically overgraze the kelp forests, turning reefs into rocky 'barrens.'*[734]

Subsequent studies have produced abundant evidence to show that in areas protected from fishing, rapid increases in abundance, size, biomass, and diversity of animals, occur regardless of where in the world the reserves are sited.[735]

During the 1990s, Gary Davis and others on the park staff began working on a proposal to CDFG to have it establish marine reserves as no-fishing zones to determine whether relief from fishing would result in recovery of the endangered resources. At the same time, a group of private fishermen, primarily long-term residents who had seen their catches diminish over the years, approached the National Park Service asking if it would assist them in doing something to rectify the situation. Most of the members were older people who had the financial means to own boats and fish the Santa Barbara Channel for recreation. Many were from prominent agricultural families in the region and they remembered the halcyon days of the 1950s when the fish and crustaceans were plentiful. Now, as they took their grandchildren to fish, the returns were comparatively pitiful. Notable among them were Jim Donlon, patriarch of Ventura County's founding agribusiness family, lawyer Steve Roberson, and businessman and national railroad labor negotiator Evans Hughes. They organized a local campaign with the Ventura County Fish & Game Commission, on which Donlon served for several years. They also created a group of at least a dozen people they called the Channel Islands Marine Resource Restoration Committee (CIMRRC) that met monthly for more than a year. They drummed up support among local and regional fishing clubs, yacht clubs, charter boat operators, and local news outlets. *Ventura County Star* newspaper reporter Brett Johnson became a tireless supporter.

In April 1998, both the National Park Service and the CIMRRC presented their proposals to the California Fish and Game Commission. Gary Davis had worked with the recreational fishing group to "train them in civics," that is, how to work with the government to get something passed into law. The upshot was that the CIMRRC's plan was virtually identical to that of the Park Service. Davis later recalled that the Commission's members largely ignored the appeal of the National Park Service but responded enthusiastically to the same program when presented by the local fishermen. The National Park Service wanted reserves over 50% of

733 The four institutions are Oregon State University, University of California, Santa Barbara, University of California, Santa Cruz, and Stanford University.

734 Partnership for Interdisciplinary Studies of Coastal Oceans [hereafter PISCO)], "The Science of Marine Reserves," 2002, http://www.pisco.org, 7.

735 CINMS, "Final 2002 Environmental Document Marine Protected Areas in the National Oceanic and Atmospheric Administration's Channel Islands National Marine Sanctuary," Volume 1, October 2002, 1-5.

the sea within the park boundary. This was strongly recommended by marine biologists as necessary for recovery. They believed that seriously endangered fishery species could not be saved without half the coastal water restricted. However, 20% was the common proportion in various reserves around the world and what the National Marine Fisheries Service and the South Atlantic Fisheries Management Council had proposed in bands along the Atlantic Coast from North Carolina to Florida. Recognizing the political futility of proposing 50% coverage, the National Park Service used these precedents to ask for 20%. CIMRRC's proposal exactly matched that recommendation.[736]

The CFGC agreed with the proposal but did not know how to identify which zones around the islands to include and what rules to apply to each one. Yet a solution was readily at hand. In 1998, Channel Islands National Marine Sanctuary had established a community-based Sanctuary Advisory Council (SAC). It comprised 10 government seats and 10 nongovernment seats, representing commercial and recreational fishermen, divers, conservationists, businesses, tourism, and some citizens at large. Sanctuary Director Lieutenant Commander Edward Cassano offered to incorporate into it a working group that would negotiate for reserves or other solutions to the crisis. It would identify critical issues, research objectives, and educational opportunities, and establish a framework for considering specific reserves. NOAA's mission included developing an informed constituency to increase awareness and understanding of the purpose and value of the sanctuary. It was the appropriate agency to undertake this complicated role. CINMS and CDFG developed a joint federal and state partnership to co-chair a Marine Reserve Working Group (MRWG) of stakeholders who would consider the establishment of marine reserves in the Sanctuary.[737] The following year, the state legislature facilitated the process by passing the California Marine Life Protection Act which required CDFG to reevaluate all existing marine-protected areas and design new units that together would function as a statewide network.[738]

In the spring of 1999, five SAC members requested to serve on the MRWG, while the other 12 members of the 17-person group were nominated and approved for membership by majority votes of the SAC. Neither CDFG nor CINMS management or staff were involved in setting the membership of the MRWG. Subsequent designations of alternate members and replacements for departed members were handled directly by the MRWG, subject to final ratification by the SAC. The MRWG consisted of a core of the five SAC members, a Sea Grant Extension marine advisor, and a representative of the CDFG. Ten additional members were selected to represent a range of community perspectives (e.g., sport fishing, commercial fishing, and kelp harvesting). Fourteen of the 17 members represented fishing interests, as participants, managers, researchers, or advocates.[739] Two professional meeting facilitators were hired, one from a local

736 Gary Davis interviewed by Lary Dilsaver, September 3, 2018.

737 The ten government seats on the SAC were held by National Marine Fisheries Service, National Park Service, Minerals Management Service, US Navy, US Coast Guard, CDFG, California Resources Agency, California Coastal Commission, and the counties of Santa Barbara and Ventura. The ten community seats included tourism, business, recreation, fishing, education, research, conservation, and three members at-large.

738 California Fish and Game Code, Marine Life Protection Act [2850 - 2863] (Chapter 10.5 added by Stats. 1999, Ch. 1015, Sec. 1).

739 Marine Reserves Working Group membership included: Patricia Wolf (Co-Chair) California Department of Fish and Game, Matthew Pickett Co-Chair Sanctuary Manager CINMS, Ed Cassano former Co-Chair former Sanctuary Manager CINMS, Warner Chabot Ocean Conservancy (Replaced by Mr. Helms) for Conservation, Greg Helms Ocean Conservancy for Conservation, Steve Roberson Channel Is. Marine Resource Restoration Committee for Conservation, Alicia Stratton Surfrider Foundation (Replaced

community and one from a federal agency. The working group formally adopted ground rules for consensus that required members to offer positive alternatives if they disagreed with a group proposal or to withdraw from the process. The SAC selected a 16-member Marine Reserves Science Panel to provide scientific guidance. Members of this panel were selected to represent broad local knowledge, diverse disciplines, and institutions. The group considered only scientists with no published "agenda" on marine reserves. The process also was supported by a five-person Socioeconomic Team to help the working group evaluate the social and economic implications of marine reserves.[740]

Beginning in early 2000, a task group in the MRWG worked on formulating a statement of the problem and a list of goals and objectives in each goal to solve it. The former was straightforward:

> *The urbanization of southern California has significantly increased the number of people visiting the coastal zone and using its resources. This has increased human demands on the ocean, including commercial and recreational fishing, as well as wildlife viewing and other activities. A burgeoning coastal population has also greatly increased the use of our coastal waters as receiving areas for human, industrial, and agricultural wastes. In addition, new technologies have increased the efficiency, effectiveness, and yield of sport and commercial fisheries. Concurrently there have been wide scale natural phenomena such as El Niño weather patterns, oceanographic regime shifts, and dramatic fluctuations in pinniped populations… To protect, maintain, restore, and enhance living marine resources, it is necessary to develop new management strategies that encompass an ecosystem perspective and promote collaboration between competing interests. One strategy is to develop reserves where all harvest is prohibited. Reserves provide a precautionary measure against the possible impacts of an expanding human population and management uncertainties, offer education and research opportunities, and provide reference areas to measure non-harvesting impacts.*[741]

After presenting and then altering several drafts, the MRWG set forth five goals with objectives on December 14, 2000, that were straightforward but also ambitious.

***Ecosystem Biodiversity Goal*:** To protect representative and unique marine habitats, ecological processes, and populations of interest. Its objectives were to include representative marine habitats, ecological processes, and populations of interest; to identify and protect multiple levels of diversity (e.g., species, habitats, biogeographic provinces, trophic structure); to provide a buffer for species of interest against the impacts of environmental fluctuations; to identify and incorporate representative and unique marine habitats; to set aside areas that provide physical,

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by Mr. Kelly) for Conservation, Shawn Kelly Surfrider Foundation for Conservation, Chris Miller CA Lobster Trappers Association for Consumption, Neil Guglielmo Squid seiner and processor for Consumption, Dale Glanz ISP Alginates for Consumption, Tom Raftican United Anglers for Consumption, Marla Daily Sanctuary Advisory Council Public at large, Craig Fusaro Sanctuary Advisory Council Public at large, Gary Davis National Park Service, Mark Helvey National Marine Fisheries Service, Deborah McArdle California Sea Grant, Locky Brown Channel Islands Council of Divers for Sport Diving, Robert Fletcher Sportfishing Association of CA for Marinas/Businesses, and Michael McGinnis UCSB Ocean & Coastal Policy Center (Resigned) for Conservation. See CINMS 2002, Appendix 3.

740 Gary Davis, "Science and Society: Marine Reserve Design for the California Channel Islands," *Conservation Biology*, 19 (6) December 2005, 1745–1751.

741 CINMS, "Final 2002 Environmental Document," 1-3 to 1-4.

biological, and chemical functions; to enhance long-term biological productivity; and to minimize short-term loss of biological productivity.

***Socioeconomic Goal*:** To maintain long-term socioeconomic viability while minimizing short-term socioeconomic losses to all users and dependent parties. Its objectives were to provide long-term benefits for all users and dependent parties; to minimize and equitably share short-term loss in activity for all users and dependent parties; to maintain the social and economic diversity of marine resources harvest by equitably sharing the loss of access to harvest grounds among all parties to the extent practical when designing reserves; and to address unavoidable socioeconomic losses created by reserve placement through social programs and management policy.

***Sustainable Fisheries Goal*:** To achieve sustainable fisheries by integrating marine reserves into fisheries management. Its objectives were to increase abundance, distribution, reproductive capacity and individual sizes of harvested populations within marine reserves in the Channel Islands region; to facilitate rebuilding and sustaining harvested populations; to enhance spillover into nonreserve areas; and to establish a recognition program for sustainable fisheries in the Channel Islands region.

***Natural and Cultural Heritage Goal*:** To maintain areas for visitor, spiritual, and recreational opportunities, which include cultural and ecological features and their associated values. Its objectives were to conserve exceptional ecological and cultural resources that stimulate and encourage human interaction with the marine environment and promote recreational activities; to conserve outstanding areas that encompass seascape, adjoining coastal landscapes, or possesses other scenic or visual qualities; to maintain submerged remnants of past life that are of special historical, cultural, archeological, or paleontological value; to maintain areas of particular importance that support traditional nonconsumptive uses; to maintain opportunities for outdoor recreation as well as the pursuit of activities of a spiritual or aesthetic nature; and to facilitate ease of access to natural features without compromising their value or uniqueness.

***Education Goal*:** To foster stewardship of the marine environment by providing educational opportunities to increase awareness and encourage responsible use of resources. Its objectives were to develop and distribute off-site interpretations and displays allowing indirect observation, study, and appreciation of marine resources; to provide current pamphlets, project ideas, and worksheets for use on- and off-site; to promote personal and organized visits for direct observation and study; and to link monitoring and research projects to support classroom science curriculum.[742]

The Science Panel tackled its job with enthusiasm and energy. Its members first had to decide what criteria should be used to determine where to establish marine reserves and how large they should be. Among the desirable criteria they identified were:

1. Biogeographic representation including different regions characterized by different sets of habitats, environmental conditions, and species. Critical was the need to place reserves in the Oregonian zone, the cold south-flowing water around San Miguel Island and northern shores of Santa Rosa Island and Santa Cruz Island, the Californian zone around Anacapa Island that is affected by the north-flowing warmer Southern California

742 CINMS, "Final 2002 Environmental Document," appendix 3.

Countercurrent, and a Transition zone of mixing waters from the southern shores of the two big islands to Santa Barbara Island (see map 1-9).

2. Habitat representation including rocky shores, sandy bottoms, kelp forests, eelgrass beds, and estuaries.
3. Rare or vulnerable habitats susceptible to stresses.
4. Vulnerable life stages such as breeding, juvenile, or migration periods. One proposal suggested a very large reserve encompassing northeastern San Miguel Island and much of the ocean out to Richardson Rock to protect the distribution of larvae to the other islands by the Santa Barbara Gyre.
5. Protecting areas for species of concern such as abalone, lobster, and California sheephead.
6. The size of a reserve necessary to promote population recovery.
7. Linkages connecting ecosystems through plants, animals, and nutrients.
8. Reserve networks linked by movement of animals and plant propagules.
9. Human threats including pollution and extensive use for recreation or other uses.
10. Natural catastrophes including storms, algal blooms, disease episodes, and climate change.
11. Social and economic values of the local and regional communities. This final criterion would lead to the most controversy, both in the working group and among the public.[743]

Gary Davis summed up further recommendations to the list. He suggested that at least 30% of park waters be reserved with boundaries clearly defined by physical features, natural or built, that run in cardinal directions for easier enforcement. Such boundaries can be easily recognized by fishermen. He reiterated that the reserves should represent all three biogeographic zones with at least two reserves per zone and each should have at least six miles of shoreline. They should protect key biological features such as rookeries and include the west end of San Miguel Island, Prince Island, Gull Island, Scorpion Rock, West Anacapa Island, and southeastern Santa Barbara Island. Finally, he thought no reserves should be placed at major anchorages but some should lie at smaller sites to provide data on the effects of disturbance.[744]

MRWG members soon learned how difficult their task would be. At a major meeting held on September 26–27, 2000, the science and socioeconomic panels presented their findings and ideas. Reporter Melinda Burns of the *Santa Barbara News-Press* wrote that it introduced fishermen and environmentalists to "rough waters ahead." The Science Advisory Panel issued its official summary of the data and recommendations it had compiled in a report entitled, "Estimating Reserve Size for Conservation and Fisheries Management," dated January 17, 2001. Its conclusions presented stark choices for fishermen:

> *Given the available empirical data, a minimum reserve size of 30% of the suitable habitat in a management area would sustain approximately 80% of the species for which data are currently available. To meet the minimum habitat requirements for all species, the fraction set aside in reserves would need to exceed 70% of the suitable*

743 PISCO "The Science of Marine Reserves," 18.

744 Gary Davis to Park Marine Reserve Players, October 10, 2000, Gary Davis files provided to Lary Dilsaver, Folder "Reserves Maps."

> *habitat in the management area. If reserves are designed for fisheries enhancement and sustainability, numerous theoretical studies and limited empirical data indicate that protecting approximately 35% of fishing grounds will maximize catches. Thus a reserve area of 30-50% of an area of interest will achieve some measure of protection for both conservation and fisheries goals.*[745]

Burns wrote "for every rocky reef, sandy plateau, eelgrass bed, kelp forest and underwater canyon that conservationists wanted to save, it seemed someone from the fishing community had an objection." Urchin divers, lobstermen, squid boat operators, sport fishing outfits, and beach fishermen all had different areas they would not sacrifice. She quoted Michael McGinnis, a University of California, Santa Barbara, political science professor who said, "This is a classic example of the troubled marriage between marine science and the politics of fishery protection; some people will lose and some people will win."[746]

The fishermen quickly reacted. The Sea Urchin Harvesters' Association, California reported that Chris Miller, representing the lobstermen on the MRWG, had managed to "slow down and focus on a more methodical and deliberative process." The Association newsletter suggested that with the early release of data from the Science Panel some had quickly assumed it to be the final blueprint without the benefit of input from all members of the MRWG. Miller optimistically reported some success in getting environmental groups to pay attention to fishery management goals and agree to balance ecological issues with socioeconomic issues. [747]

The socioeconomic panel struggled to match the hard data presented by the science panel. Relying on CDFG statistics on fishery catches helped, but measuring nonconsumptive uses, such as no-take diving and general marine tourism was nearly impossible. Vernon R. Leeworthy and Peter C. Wiley presented a cost-benefit breakdown of their findings three days after the Science Panel's official release. It began with summaries of the potential benefits for nonconsumptive users, scientific values, nonusers, and improving fishery stocks both in and out of the reserves. Benefits to science included further opportunities for monitoring and research. For fisheries they predicted a "long-term increase" in harvest, consumer products (food), and jobs because of greater recruitment (reproduction) within the reserves. For nonusers there would be value in knowing that the resources were there if they ever wanted to use them in the future.

Leeworthy and Wiley followed with a list of potential costs to commercial and recreational fisheries. These included lost harvest and income to fishermen, a consequent drop in income and jobs in the community, loss to consumers due to rising prices for fish, user conflicts in overcrowded areas outside the reserves, loss of local harvest knowledge that might support sustainable fishing practices, social disruption due to loss of income and jobs, lost income to businesses that serve fishermen, loss of tourism and its income, and loss of overall resource populations due to overfishing in nonreserve areas.[748] Two studies challenged the socioeconomic report from opposite camps in the controversy. Environmental Defense

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745 Science Advisory Panel, MRWG, "Estimating Reserve Size for Conservation and Fisheries Management," January 17, 2001, Gary Davis files provided to Lary Dilsaver, Folder "Alts for Marine Reserves."

746 Melinda Burns, "Channel sanctuary talks turn to what's in, out," *Santa Barbara News-Press*, September 28, 2000.

747 "Report from the Marine Reserve Working Group," *News in Brief*, Sea Urchin Harvesters' Association, California, November 29, 2000, Gary Davis files provided to LaryDilsaver, Folder "Alts for Marine Reserves."

748 Vernon R. Leeworthy and Peter C. Wiley, "Proposed Marine Reserve Channel Islands National Marine Sanctuary Socioeconomic Team," January 10, 2000, Ibid.

conducted its own analysis of the economic influences of marine resource-based industries in Santa Barbara and Ventura Counties. To nobody's surprise, its authors found that the economies of the two counties were stronger than that of California as a whole, that primary industries employed a miniscule proportion of the population, that the growing labor force would find few opportunities in those fields, and that the local catches of highest value were exported, which blunted the arguments for the multiplier effect and local consumer benefits. They noted that measuring tourism was complicated and that recreational fishing could help, but admitted they could not predict its future.[749]

On March 7, 2002, the American Sports Fishing Association, in cooperation with the United Anglers of Southern California, released a report developed by Robert Southwick of Southwick Associates, Inc., of Fernandina Beach, Florida, entitled, *The Economic Effects of Sportsfishing Closures in Marine Protected Areas: The Channel Islands Example*. The report's stated goal was to broaden understanding of the economic issues related to the proposed Marine Protected Areas within the Channel Islands National Marine Sanctuary. However, Leeworthy and Wiley accused its authors of applying "blatantly bad science in what can only be described as 'pure advocacy analysis.'" They rebuffed the sportfishing groups' report adding:

> *The report made several claims about our report, some true and some false. The most important claim was that our method underestimates the impacts of marine reserves on the local and regional economies. We show here that the opposite is true. The data and methods we employed actually overestimate the economic impacts from recreational fishing on the local and regional economy and overstate the impacts from marine reserves in the CINMS on the local and regional economy.*[750]

In a 2005 follow-up report, Leeworthy, Wiley, and Edward Stone concluded:

> *If we were to consider the values to nonconsumptive recreation, in addition to the passive economic uses, then the marine reserves would have net benefits for all three alternatives for all scenarios. Even in the face of information uncertainty, decision-makers can be highly confident that marine reserves in the CINMS will yield positive net benefits to the Nation.*[751]

Subsequently, Gary Davis offered a cautionary comment to the Socioeconomic Panel. He stated that commercial fishermen had more precise landings data but regarded them as proprietary. They would not make their information available to the panel so accuracy, precision, and consistency of landings could not be evaluated. He also argued that when the socioeconomic team calculated potential economic losses, they assumed all future landings to be constant at previous mean levels, even though it was clear they were not because some fisheries such as abalone had collapsed and landings had declined recently for red sea urchins, rockfish, sea cucumbers, California sheephead, and others.[752]

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749 Jacob P. Kritzer, Tira Foran, and Rodney M. Fujita, "An Economic Overview of Santa Barbara and Ventura Counties and Their Marine Resource-Based Industries," Environmental Defense, n.d., Ibid.

750 Vernon R. Leeworthy, Peter C. Wiley, and Edward A. Stone, "Socioeconomic Impact Analysis of Marine Reserve Alternatives for the Channel Islands National Marine Sanctuary," NOAA, National Ocean Service, October 7, 2005, 104.

751 Ibid., appendix G.

752 Gary Davis, "Science and Society," 2005.

The difficult job of compromise began in earnest after the September meeting. As different specific resource and use issues arose, the membership of the forces for and against a recommendation shifted. One's strongest ally one at one meeting might become a bitter foe at the next. Five members opposed or sought to minimize the reserves including Dale Glantz, Chris Miller, and Tom Raftican who represented fishing groups, Robert Fletcher who was listed as the representative for business but was in fact an executive for a fishing boat company, and Locky Brown who represented diving groups. In Brown's case, the MRWG received a letter at its last meeting, signed by more than ten prominent leaders in diving clubs, angrily complaining that Brown had not represented their interests. It seems he was a competitive spear fisherman and the other divers supported the conservation position.[753]

The MRWG met 25 times in 22 months to develop consensus and to receive and evaluate input from the Science Panel, the Socioeconomic Panel, and the general public. Members developed more than 40 different designs for potential marine reserves and evaluated the ecological value and potential economic impact of each. To facilitate public participation, the MRWG sponsored three large public forums in Santa Barbara and Oxnard. In addition, the SAC hosted more than a dozen public meetings in Ventura and Santa Barbara Counties. Upon receipt of the MRWG's work, the SAC hosted two additional public meetings and an evening public forum. Hundreds of people participated directly in this process at public meetings and work sessions and by reviewing documents. By May 15, 2001, the CINMS and CDFG had received 9,161 public comments and 94% favored a network of reserves that met the science panel's recommendations. A majority of the supporters agreed that at least 30% and up to 50% of the Sanctuary should be set aside. Six percent opposed any reserves or wanted smaller ones. Many comments supported restricting commercial fishing but not sportfishing or diving. The total cost of this effort was difficult to estimate, but exceeded $1,000,000.[754]

On May 16, 2001, the MRWG decided to end their work together. As directed by the ground rules, it agreed to forward all areas of consensus and nonagreement to the Sanctuary Advisory Council. In the end, 15 of the 17 MRWG members supported the establishment of some marine reserves. The facilitators allowed opponents to block consideration of a second marine reserve in the Californian biogeographic zone. That left just the existing one north of Anacapa Island and an adjacent marine conservation area. The MRWG recommended that the co-chairs resolve the differences expressed by its members to reach a compromise position. The SAC then evaluated the records and recommendations and held its public meetings and forum to gather further input.[755] On June 19, 2001, based on its understanding of the areas of agreement and disagreement reached by the MRWG, the expert input provided by the Science and Socioeconomic Panels, and the public comment on the issue, the SAC voted 17 to 1 with 1 abstention to (1) transmit the full public record of the MRWG and the SAC processes; and (2) request that the staffs of the Sanctuary Manager and the CDFG craft a final recommendation to present to the California Fish and Game Commission in August 2001. It included a commentary on the MRWG's community-based process:

753 Gary Davis telephone interviewed by Lary Dilsaver, October 4, 2018.

754 Ibid., CINMS, "Final 2002 Environmental Document," appendix 3; *Federal Register*, Vol. 72, May 24, 2007, p. 29210.

755 CINMS "Final 2002 Environmental Document," Appendix 3.

> *The Channel Islands National Marine Sanctuary Advisory Council (SAC) commends the CINMS staff, Department of Fish and Game (DFG) and all participants of the MRWG, Science and Socio-Economic Panels on their efforts over the past two years. The SAC finds that the MRWG, in seeking consensus on marine reserves, developed scientific and socio-economic data that should be used and built upon in future consideration of such issues. The SAC finds that the MRWG process was open, inclusive and community based.*[756]

The two agencies produced a draft that gave substantial preference to commercial and recreational fishing interests over conservation interests. It had six alternatives for the system of reserves and two other options. Each alternative contained a proposed area for the state and a recommended area for state and federal territory combined. The preferred alternative offered 10 marine reserves and two marine conservation areas totaling 19% of the state waters around the park islands, decidedly less than the 30%–50% suggested by the MRWG Science Panel. The recommendation also suggested a potential "Federal waters phase" that would expand the reserve total to 25% of the Sanctuary waters. Alternatives one and two limited the reserves to 12% of the state waters and 12% of the Sanctuary waters. Alternative five sought 23% of the state waters and 34% of the Sanctuary waters. Alternatives three and four fell in between these amounts. The draft also included a no action option and another to delay action that would publish an environmental document. In the process, the CDFG completed an environmental review under the requirements of the California Environmental Quality Act.

New Sanctuary Manager Matt Pickett forwarded the modified design to the California Fish and Game Commission and it became the basis for public review over four more public meetings around the state during the next year. The draft environmental document was released for public comment on May 30, 2002. Comments were accepted for an extended period until September 1, 2002. The Commission and CDFG received 2,492 letters, e-mails, and oral comments. Of this total, 2,445 were form letters circulated by Environmental Defense that made identical comments. NPS Regional Director John J. Reynolds offered support for the project, but contended that the recommended network of reserves was "too small to adequately sustain marine resources" and that "only alternative five is sufficient to achieve conservation of biological diversity and fisheries at the Channel Islands."[757] The Commission finally voted two to one to create the preferred option. After the CFGC voted, the California Office of Administrative Law approved the Channel Islands Marine Protected Area (MPA) regulatory action and filed it with the Secretary of State on March 10, 2003. The regulations took effect on April 9, 2003. Following the Commission's decision, several recreational and commercial fishing interests collectively filed a suit in state court for an injunction to stay implementation of regulations making the reserves effective. The court denied the requested injunction and an appeals court denial affirmed the ruling.[758]

In 2004, the National Marine Sanctuary Program released a preliminary environmental document with a range of alternatives for establishing its own marine reserves to complement those of the state. In 2006, to provide protection to the sea floor and ground fish, the NMFS designated the federal water portions offshore of the state marine reserves as habitat areas of

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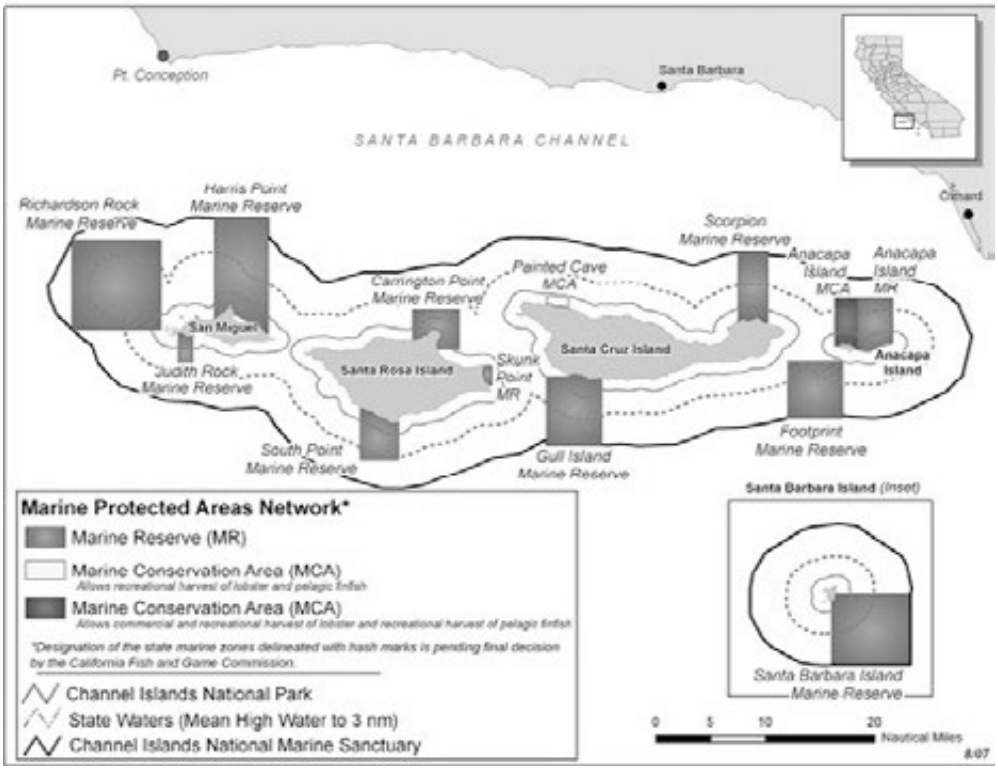
756 Ibid.

757 Ibid., p. 8-4.

758 Gary Davis, "Science and Society," 2005.

particular concern and prohibited bottom fishing under the Magnuson-Stevens Fishery Conservation and Management Act.[759] NOAA released a draft management plan and environmental impact statement for public comment on May 19, 2006 (71 *Federal Register* 29148). It offered a no-action alternative, three that adhered closely to the spatial recommendations adopted by the SAC and CDFG, and one that greatly expanded the reserve area by adding 11 new ones and another marine conservation area. Of the three that matched the SAC and CDFG extent, oddly labelled 1a, 1b, and 1c, the first two applied federal rules to some or all of the state's waters. The state would have none of that, so option 1c became the preferred alternative. Some small gaps remained between the state and federal marine zones that resulted from squaring off the state marine zones in 2003 for enforcement and ease of recognition by boaters until the federal zones were established. On May 24, 2007, the *Federal Register* announced the final rule to create the new federal marine reserves and noted that the state was busily amending any gaps where its sanctuaries' boundaries did not match those of the federal ones. The final rule took effect on July 29, 2007. The combined reserves prohibit fishing, oil exploration, ocean dumping, and other actions in 21% of the Channel Islands National Marine Sanctuary.[760]



Map 6-3. Marine Reserves around Channel Islands National Park by marine habitat in 2019.

Source: Cartography by Rockne Rudolph, Channel Islands National Park.

759 *Federal Register*, Vol. 72, May 24, 2007, 29210; NOAA, "Marine Zones now in Federal Waters of NOAA'S Channel Islands National Marine Sanctuary," https://channelislands.noaa.gov/marineres/archive.html, provided by CINMS.

760 *Federal Register*, Vol. 72, May 24, 2007, p. 29210; Ibid., August 14, 2007, 45320.

CULTURAL RESOURCE MANAGEMENT

Don Morris, who had been with the park since 1985, remained the only permanent staffing in cultural resources at the beginning of the 1990s. While working to expand knowledge of the park's archeological resources, Morris also took on the responsibility for protecting the historic ranch buildings, structures, and landscapes that the park had gained through the acquisition of Santa Rosa and East Santa Cruz Islands. He also kept the curatorial program going and continued to devote time to the documentation of submerged cultural resources, especially historic-era shipwrecks. He began making seasonal dive trips during his first year at the park to search for and investigate likely wreck sites. His first trip occurred in April 1985 on the NOAA hydrographic vessel *Fairweather*, which was equipped with sophisticated magnetometer and side-scan sonar devices. Unfortunately, these technologies proved less helpful than expected in the dense near-shore kelp beds. He made later trips on park vessels and relied instead on local knowledge and documentary evidence. Much of this was provided by Peter Howorth, a local boat captain and diver who was already familiar with many of the wreck sites through first-hand experience. In 1985, Howorth collaborated with anthropologist Travis Hudson to put together a report on the known or likely locations of submerged archeological sites around the islands. That study and Howorth's personal guidance provided the starting point for much of Morris's subsequent work on submerged cultural resources.[761]

Don Morris's diving expeditions were popular at the park because they provided an opportunity for staff from all divisions to gain experience underwater. At that time, when the standards for maintaining dive certification in the National Park Service were less stringent, more than half of the park staff regularly helped out on underwater projects.[762] In addition to this enthusiastic volunteer support from his colleagues, Morris also had the specialized assistance of students from a recently formed program in maritime archeology at California State University, Long Beach, under the direction of Professor William Lee. The park hired a graduate student at UCSB, James Lima, as a temporary park historian in August 1992 to research archival sources for historic information relating to shipwrecks around the Northern Channel Islands.[763] Lima was also a certified diver and had been volunteering on park dive expeditions for several years, but his new position made it possible to devote more time to the project and increase the scope of the investigation considerably. Over the next few years, Morris and Lima were able to identify nearly 100 vessels of all sizes that had wrecked in park waters, producing detailed maps of the wreck scatters of several of the sites that they had been able to locate. The National Park Service published their work in 1996 as a *Submerged Cultural Resources Assessment*.[764]

Don Morris was very interested in encouraging research and documentation of terrestrial archeological resources and was deeply concerned about protecting sensitive archeology on the islands. San Miguel, Anacapa, and Santa Barbara Islands had been relatively well-surveyed for archeological sites, but Santa Cruz and Santa Rosa Islands had not. During the 1970s, Michael

761 Don Morris interviewed by Timothy Babalis, August 8, 2009, Transcript on file in CINP Archives; D. Travis Hudson and Peter C. Howorth, Preliminary Report on Sensitive Marine Historical and Archaeological Sites Within the Boundary of Channel Islands National Marine Sanctuary (Ventura, CA: NPS, CINP, 1985).

762 David Stoltz interviewed by Timothy Babalis, June 26, 2009. Transcript on file in CINP Archives.

763 Matthew Russell was another student who worked closely with Morris. Russell went on to work professionally with the Submerged Cultural Resources Unit (now the Submerged Resources Center) of the NPS.

764 Don P. Morris and James Lima, Submerged Cultural Resources Assessment, Channel Islands National Park and Channel Islands National Marine Sanctuary (Santa Fe, NM: NPS, Submerged Cultural Resources Unit, 1996).

Glassow's well-designed sampling surveys covered approximately 10% of the Stanton Ranch, after which, Carey Stanton facilitated a nomination to list it in the National Register of Historic Places as an archeological district. After TNC gained full control of the property, Dr. Jeanne Arnold of UCLA continued her work along the eastern boundary line of the property, focusing on precontact chert quarries found in that region. The independent surveys by Glassow and Arnold together covered over 20% of the island. However, East Santa Cruz Island had not been investigated since Ronald Olson's work in the 1920s, and still remained largely inaccessible due to Francis Gherini's opposition.[765] Meanwhile, Dr. Jon Erlandson of the University of Oregon continued his work at Daisy Cave on San Miguel Island. Limited testing at the site in the fall of 1992 retrieved pieces of seagrass cordage that were dated at approximately 9,000 years BP, among the oldest fiber crafts yet recovered in North America. Two woven pieces were also recovered, with speculation that one or both could have been part of a child's sandal. Erlandson's crew also recovered a limited number of chipped stone specimens from the lowest level of the excavation that dated to 11,000 years BP. Though not yet conclusive, this offered persuasive evidence, along with the Arlington Springs site on Santa Rosa Island, that the Channel Islands may be one of the earliest human occupation sites in North America.[766]

Santa Rosa Island had been studied as recently as the 1950s, when Philip Orr of the Santa Barbara Museum of Natural History was active there. But, as noted above, Orr's methodology was considered unreliable and, given his focus on the northwestern portion of the island, did not represent a comprehensive survey of Santa Rosa. With the recent NPS acquisition of the island, Morris could now gain relatively unhindered access to the island and made this a priority. During the 1990 fiscal year, he was able to hire seasonal archeological technicians, and with their assistance began to conduct a comprehensive coastal survey. During the first season alone, his team recorded more than 135 additional sites on Santa Rosa Island. As Morris explained in his annual report to the superintendent, these included entirely new categories of sites such as lithic scatters as well as occupation of island zones previously reported as unoccupied. Among his significant findings were new radiocarbon dates indicating that occupation of Bechers Bay dated to more than 7,000 years ago. Although Orr had recorded sites in this area during the 1950s and Arthur Woodward had called them "shell bead factories" in the 1930s, this new work more than tripled the known area of the island settled at this prehistoric time. Work on the far western end of the island revealed highly eroded, thickly clustered coastal site complexes, some over 120 feet in extent. The archeologists found sites in the mountainous interior on broad, open ridges and in east-facing rock shelters on canyon walls, even at higher elevations. Rock shelter sites inaccessible to cattle remained in pristine condition. In addition to precontact sites, Morris's team recorded Chinese abalone fishing camps from the late 19th century, and shore camps with cargo stockpiles from the historic wrecks of the *Goldenhorn* in 1892 and the *Aggi* in 1915. They also recorded an early oil exploration camp.[767]

At the end of that intense study, Morris recommended that an annual survey of sites that were in danger of erosion be undertaken to capture both archeological and paleontological remains before the sites washed into the sea or collapsed into a canyon destroying their contextual data.

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765 NPS, Resource Management Plan 1994, 31-36.

766 Ibid., Superintendent's Annual Report for 1992 (March 10, 1993), CINP Archives, Cat. 13117, Box 1, Folder 8; Thomas J. Connolly, Jon M. Erlandson, and Susan E. Norris, "Early Holocene Basketry and Cordage from Daisy Cave, San Miguel Island, California," *American Antiquity* 60 (2) 1995, 309-318.

767 Superintendent's Annual Report for 1992 (March 10, 1993) CINP Archives, Cat. 13117, Box 1, Folder 8; NPS, RMP 1994, 31-36; Don Morris e-mail to Lary Dilsaver, January 2, 2019.

However, all the other cultural resource issues he had to manage left no time to do the work and few funds to hire contractors to do the surveys. In 2010, Michael Glassow compiled an updated archeological overview of the park islands and made the same recommendation, but beyond spot checks and new research by interested scholars there was no systematic survey to observe erosion and monitor for exposure of archeological deposits.[768]

Curation of the park's museum collection also improved substantially during the early 1990s. Prior to 1991, three museum cabinets and a herbarium cabinet squeezed into a small space at the visitor center housed the collection, which consisted of a variety of natural and cultural objects. Volunteers from the interpretive division managed the collection and it was only partially catalogued. In 1991, the park transferred curatorial responsibilities from Interpretation to the Resource Management Division, where they were given to Don Morris. He promptly discovered that the amount of work required to even approach NPS curatorial standards was far more than originally estimated. Physical access to the collections for an initial inventory was limited by their storage conditions, with the contents of some cabinets virtually impossible to reach. Newly acquired materials were stored in boxes in an unused park office until they could be accessioned, catalogued, and stored properly. The cataloguing backlog had also grown substantially because no one had made any entries in the computerized database (the NPS Automated National Catalog System or ANCS) for several years.[769]

In 1991, the park obtained funding for a Bally-type modular building, museum storage equipment, and basic preventive conservation of the collection. A dedicated curatorial office space was also established. That same year, Kathleen Baldwin, a student from the museum studies program at UCLA, volunteered to assist with management of the park collections. Baldwin had recently finished archeological field school on Santa Cruz Island and was looking for professional experience. The following year, the park hired her on a project-funded basis. She improved the condition of the museum collection by inventorying its contents, storing like objects together, re-establishing an archive for pertinent documents and photographs, and improving storage conditions in the Bally building. She also entered the backlog of catalog records into the ANCS computer database. In total, she entered approximately 225 pre-existing records and added 2,500 new records. The latter consisted primarily of photo and document archives. Additional collections included the Santa Rosa Island archeological survey, seized maritime artifacts from the 1987 Wreck Divers case, and a loan from the US Coast Guard of the original Anacapa Fresnel lens. Baldwin's work suffered a tragic setback later that year, however, when a leaking pipe inundated the Bally building. Fortunately, the sodden materials were able to be treated, and damage was minimal. Channel Islands also hired a temporary librarian with resource management funds who organized and catalogued the park's small library in 1992.[770]

768 Don Morris telephone interviewed by Lary Dilsaver, August 24, 2018; Ann Huston interviewed by Lary Dilsaver, August 16, 2018; Michael Glassow, ed., Channel Islands National Park Archaeological Overview and Assessment, NPS, 2010. Authors for this study included Todd J. Braje, Julia G. Costello, Jon M. Erlandson, Michael A. Glassow, John R. Johnson, Don P. Morris, Jennifer E. Perry, and Torben C. Rick.

769 DOI, Channel Islands National Park: Museum Management Plan (San Francisco, CA: PWRO, NPS, 2005), 15.

770 Ibid., Superintendent's Annual Report for 1992 (March 10, 1993), CINP Archives, Cat. 13117, Box 1, Folder 8.

Paleontology

The Channel Islands have been a rich source of paleontological remains from many genera. Most have been marine species, but one terrestrial animal has drawn more attention than the rest—the pygmy mammoth (*Mammuthus exilis*). A diminutive relative of the mainland Columbian mammoth (*Mammuthus columbi*), it too became extinct approximately 11,000 years ago. Scientists believe that during the Pleistocene, Columbian mammoths swam to Santarosae. Once on the island, which is believed to have been free from large predators, the mammoths evolved to a much smaller size. Pygmy mammoths measured less than 7 feet at the shoulder and 2,000 pounds in weight compared to 14 feet and 20,000 pounds for their mainland ancestors. Research so far has shown that they were the only true dwarf mammoth in the Western Hemisphere.[771]

Figure 6-1. An exposed portion of a dwarf mammoth on Santa Rosa Island.

Source: Photographer and date unknown. CINP Archives, Acc. 4, Cat. 34.

A US Coast and Geodetic Survey team discovered a tooth on Santa Rosa Island in 1856, but it wasn't reported until 1873. Paleontological excavations on Santa Rosa Island in 1927 and 1928 resulted in the retrieval of a significant collection of fossils and a formal description of the species by Chester Stock and Eustace Furlong of the California Institute of Technology.[772] Philip Orr of the Santa Barbara Museum of Natural History recovered additional materials during archeological and geological fieldwork on Santa Rosa Island during the 1940s and 1950s. Orr's work on the island ended during the 1960s. Vail & Vickers restricted access to the island

771 Justin S. Tweet, Vincent L. Santucci, and Tim Connors, "Paleontological Resource and Inventory Monitoring Mediterranean Coast Network," Natural Resource Technical Report NPS/MEDN/NRTR—2012/64, 2012, 50-51; Don Morris interviewed by Timothy Babalis, August 8, 2009. Transcript in CINP Archives; CINP, "The Pygmy Mammoth," https://www.nps.gov/chis/learn/historyculture /pygmymammoth.htm, Accessed October 29, 2018.

772 The fossils were later transferred to the Los Angeles County Natural History Museum.

from then until 1986, resulting in temporary cessation of professional paleontological research. Boris Woolley, a member of the Vail family, made an avocational collection of mammoth fossils during the 1970s and donated them to the SBMNH in 1995.[773]

In June 1994, San Diego State University geologist Tom Rockwell undertook a research trip to Santa Rosa Island accompanied by Don Morris. Rockwell was interested in sea terrace progressions on the island and how they could be used to date the strata in Arlington Canyon. Later, they explored near Carrington Point and Rockwell spotted bones of a pygmy mammoth that turned out to be the most complete skeleton of its kind found in the region. Morris contacted paleontologist Larry Agenbroad of the University of Arizona who corroborated the discovery and came to the park to direct the excavation. The 1994 discovery excited scholarly attention and drew extensive media coverage including PBS and Discovery Channel documentaries. When excavated, it proved to be an articulated and approximately 90% complete skeleton of a 50-year-old male dated to approximately 12,600 years ago which suggests it was contemporaneous with the earliest known presence of humans on the Northern Channel Islands. Careful excavation of the mammoth remains allowed the skeleton to be removed, largely intact, and a model cast of it now is on display in the visitor center at Ventura Harbor.[774]

Figure 6-2. Excavation of the nearly complete pygmy mammoth skeleton at Carrington Point on Santa Rosa Island in 1994. A cast of this fossil is now on display in the visitor center at Ventura.

Source: Photographer unknown. NPgallery.nps.gov.

773 Tweet et al., "Paleontological Resource," 50; Don Morris e-mail to Lary Dilsaver, January 2, 2019.

774 Morris interview 2009; Tweet et al., "Paleontological Resource," 51; Larry D. Agenbroad, "Mammuthus exilis from the California Channel Islands: Height, Mass, and Geologic Age." In Damiani, C. C. and D. K. Garcelon (eds.), *Proceedings of the 7th California Islands Symposium* (Arcata, CA: Institute for Wildlife Studies, 2009) 15-19.

Agenbroad initiated an annual survey for paleontological remains in January 1996 and, over the next six years, found more than 140 occurrences on Santa Rosa, San Miguel, and Santa Cruz Islands. Fossils from both Columbian and pygmy mammoths have been discovered on the islands, with the majority being found on Santa Rosa Island. Mammoth remains and other fossils from the islands are curated at the SBMNH under a cooperative agreement between the park and the museum. The 1994 discovery and follow-up survey have focused attention on the opportunities and challenges associated with paleontology and archeology on the islands. Virtually all subsequent mammoth discoveries have occurred when erosion has exposed long-buried remains on cliff sides. The park's protocol for handling new paleontological finds recommends that if a site is not in danger of imminent erosive collapse, the bones should be left in situ.[775]

However, a 2014 discovery in Arlington Canyon on Santa Rosa Island of a mammoth skull known as the Larramendy fossil, after its finder NPS biologist Peter Larramendy, refocused attention on the difficulties in preserving these delicate resources. Erosion of a cliff face can occur so rapidly, especially in the winter, that slumping or minor landslides can rebury exposed fossils or dump them into the sea. Funds and personnel must be ready to respond to a new find in a short time. Occasionally, the condition of a slope with exposed mammoth bones can be so unstable that it presents a potential danger to individuals doing the excavation. In the case of the Larramendy find, a 50-foot cliff towered over the exposure. The difficulties of the site delayed its excavation for a year. In 2016, the park set up a camp for several excavators and visiting consultants with a working/dining tent, individual sleeping tents, a vehicle to provide transportation and power, supplies, and tape to create a "no-entry" barrier. The crew was given protective gear including helmets, a first aid kit, and safety glasses. The fossil itself was airlifted out of the canyon by Aspen Helicopters. The Larramendy project was the result of collaboration between the park, the mammoth site, US Geological Survey (USGS), and the Santa Barbara Museum of Natural History.

The successful excavation in Arlington Canyon revealed a mystery for the paleontologists. The skull is too big to be a pygmy mammoth and too small to be an adult Columbian mammoth. According to *The Smithsonian*, "The scientists have narrowed possibilities down to three: either the specimen is an unusually large dwarf mammoth, a teenage Columbian mammoth, or a newly discovered intermediary species—this last option, according to the researchers, is a long shot." Mammoth fossils, among the rarest and most significant resources of Channel Islands National Park, continue to demand much more research. Differences in dating techniques between laboratories and between human and animal bones and their respective site soil profiles confuse the timing of paleontological and archeological remains. The Larramendy fossil is estimated to be 13,000 years old by dating the soils surrounding the skull, but further analysis is still pending. Arlington Man has been dated to roughly the same time. So far, nobody has found a pygmy mammoth skeleton with a spear point, but Don Morris and others remain hopeful.[776]

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775 A PowerPpoint presentation at a CINP Squad Meeting on July 26, 2016 regarding the Larramendy Mammoth Retrieval included the following as a quote of NPS Mediterranean Coast Network policy: "Fossils and their associated geologic context should be documented but left in place unless they are subject to imminent degradation by artificially accelerated natural processes or direct human impact." CINP Digital Archives, file:///D:/Documents/Writing%20CHIS/Paleontology/Squad%20Briefing.pdf.

776 Jason Daley, "Scientists Puzzle Over Unusual Mammoth Skull Unearthed in the Channel Islands," Smithsonian.com, September 20, 2016, https://www.smithsonianmag.com/smart-news/unearthed-mammoth-skull-raises-ton-questions-1-180960528/ Accessed October 29, 2018; Don Morris telephone interviewed by Lary Dilsaver, August 24, 2018.

Relations with the Chumash

In addition to the federally recognized Santa Ynez Band of Mission Indians, numerous individuals with Chumash ancestry live in Ventura and Santa Barbara Counties. Some of these families have organized formal bands, often with the intent of seeking federal recognition. After Bill Ehorn arrived as superintendent of the national monument, traditional Chumash chief Charlie Cooke and Kote Lotah came to the park to meet with him and discuss the islands' cultural history. They accompanied Ehorn to the islands several times to assist with treatment of exposed burials and archeological sites. In 1976, Ehorn helped facilitate a *tomol* (plank-built boat) voyage by the Brotherhood of the Tomol around the islands in a newly constructed traditional vessel.[777] In 1979, Ehorn held multiple meetings with American Indian groups in the area to help the park staff and the general management planning team identify areas of concern to descendants of the Island Chumash. A field visit to San Miguel Island with representatives of all the groups, to give them an understanding of the resources and management issues, capped off the meetings.[778]

Don Morris's relations with the Chumash began with a crisis-inducing mistake but subsequently improved dramatically. In December 1982, as he participated in the first Santa Rosa Island survey by the National Park Service, Vail & Vickers foreman Bill Wallace showed him an exposed burial wherein lay a flexed skeleton indicating a formal burial. Morris took some bones that had eroded down the cliffside and submitted them to a lab for analysis. Four years later he received the report that they were the oldest human remains found in California to that date. In the meantime, Bill Ehorn consulted with several Chumash groups to request their advice as to whether the eroding burial could be excavated and studied. The Chumash objected and severely criticized Morris for dishonoring the grave and their ancestor within it. Between the time he removed the bones and the report, California passed a law to protect American Indian burials that were found on private property. This first-hand experience impacted him significantly. From that point forward, Morris became a strong participant in protecting exposed human remains and park management paid more attention to complying with the federal Native American Graves Protection and Repatriation Act of 1990. Morris's testimony helped convict Island Adventures hunt guide Brian Krantz on Santa Cruz Island of violating grave sites.[779]

Island Chumash descendent Julie Tumamait-Stenslie, who later conducted the reburial ceremony for the human skull unearthed by Krantz, later worked with Morris to develop park policies for sensitively treating human remains found on the islands. During the 1990s, the park hired another Chumash descendent, Diane Napoleone, who undertook numerous reburials of human remains on the islands that had been exposed through erosion, pig rooting, and other causes. Eventually, she formed a company to carry out her work as a contractor to the park. These practices, however protective of the remains, did not strictly comply with NAGPRA, and doing so at Channel Islands remains a substantial issue and workload. During this time, the park also began to work more formally with the federally recognized Santa Ynez Chumash Tribe and other Chumash individuals to address these issues.[780]

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777 Mary Louise Contini Gordon, *Tiq Slo'w: The Making of a Modern Day Chief*, (La Mesa, CA: Amethyst Moon, 2013) 83-86.

778 Superintendent's Annual Report for 1979 (September 4, 1980), CINP Archives, Cat. 13117, Box 1, Folder 6.

779 See chapter eight.

780 Morris telephone interview, 2018.

Historic Preservation

During the 1980s and early 1990s, preservation of historic structures on the Channel Islands was limited primarily to Anacapa Island because few historic structures remained on Santa Barbara and San Miguel Islands, other than the monument to Cabrillo on the latter and some isolated vestiges on the three monument islands. Park maintenance crews undertook repairs to the former Coast Guard complex replacing deteriorated roofs on the buildings with clay tile roofs and repairing the remaining residence and other structures for use by the National Park Service. In 1995, the Coast Guard restored the Anacapa Island lighthouse. Although East Santa Cruz Island remained outside full ownership by the National Park Service until 1997 and Vail & Vickers continued to operate their cattle ranch until 1998 and their hunting operation through 2011. The park undertook repairs to several of the ranch buildings during the families' continued use and occupancy.

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CHAPTER SEVEN

Managing the Resources on Santa Rosa Island

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CHAPTER SEVEN: MANAGING THE RESOURCES ON SANTA ROSA ISLAND

The National Park Service has always had a difficult relationship with domestic animal grazing. The 1872 act establishing Yellowstone National Park forbade any settlement or commercial uses other than visitor services. The agency's Organic Act of 1916 allowed the Secretary of the Interior to permit grazing in any park other than Yellowstone as long as it did not conflict with protection of the resources. Secretary of the Interior Franklin Lane's letter two years later reiterated this as a founding policy. At the same time, however, ranchers gained permission to graze some western national parks to benefit the World War I effort in spite of opposition from officials on the ground. At Sequoia National Park, local officials had good reason to object. It wasn't until 12 years later that they could force out the grazers who complained that they would face economic ruin without access to the park's pastures. Cognizant of this, Secretary of the Interior Hubert Work wrote a policy letter in 1925 stating that grazing should be phased out of all parks and monuments as soon as possible. From that time forward, the prohibition on commercial grazing in most parks has been the preferred policy of the National Park Service.[781]

Nevertheless, legislative exceptions to this ban on grazing exist in a number of the 419 units of the national park system such as Point Reyes National Seashore and, of course, Grant Kohrs National Historical Site, dedicated as it is to telling the ranching story. Three conditions allow grazing to continue: (1) if it is specifically sanctioned in a park's enabling act, such as at Point Reyes; (2) when a retained right or leaseback is grandfathered in at the establishment of a new unit such as City of Rocks National Reserve where an end is expected for the grandfathered permission; and (3) in a special use zone as described in the 1978 NPS Management Policy document. The Vail and Vickers families sold Santa Rosa Island to the National Park Service in 1986 and secured a special use permit a year later, but the expectation of their continuation past five years was unclear. The prevailing attitude of the senior NPS officials was to avoid controversy with these politically powerful forces by ignoring the agency's own policies.[782]

The level of controversy about the acquisition of Santa Rosa Island by the National Park Service and the end of the Vail & Vickers Company operations there demand an understanding of law and policy. As outlined in chapter five, the distinction between a lease and a SUP means that under the latter, the continuation of ranching and hunting must be evaluated on the basis of a short-term permit, not a legal contract. In addition, the universal caveat suspending any use that threatens park resources is common in all legislation about the national park system. The Park Service has the right to terminate a special use permit without having to recompense the permittees. The NPS Organic Act, the Endangered Species Act, and myriad other laws force the agency to regulate within explicit legal constraints concerning damage to resources. If the National Park Service does not act, it opens the door to legal action by the public typically represented by environmental organizations and any others who demand adherence to the laws and policies.

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781 Lary M. Dilsaver, *America's National Park System: The Critical Documents*, 2nd edition (Lanham, MD: Rowman and Littlefield Publishers, 2016) 20-21, 34-39, 48-51; William C. Tweed and Lary M. Dilsaver, *Challenge of the Big Trees: A Resource History of Sequoia and Kings Canyon National Parks*, 2nd edition (Staunton, VA: George F. Thompson Publishing, 2016) 140-41.

782 William Ehorn to Stanley Albright, January 25, 1994, copy courtesy of Santa Cruz Island Foundation; NPS, "Management Policies 1978," US Department of the Interior, US General Printing Office, 0-721-256/720, II-4.

GRAZING AND THE ENVIRONMENT ON SANTA ROSA ISLAND

Shortly after completing negotiations for the first SUP with Vail & Vickers, the park initiated a survey of Santa Rosa Island plant communities through a cooperative agreement with the University of California, Davis. The purpose of this survey conducted from January through July 1988, was to provide data describing the status of the vegetation resources on the island. As principal investigator Ronilee Clark explained, its specific goals were to "(1) define the plant community types by describing their species composition and habitat characteristics, (2) map the distribution and extent of the plant communities, and (3) provide the baseline data necessary to allow future comparisons, making it possible to evaluate the condition of the vegetation resources through time." Researchers collected vegetation data at 296 sites using a visual sampling method known as a relevé.[783]

The Clark report provided the first quantitative analysis of vegetation on Santa Rosa Island since its acquisition by the park and established a baseline for future monitoring. The authors noted that most of the island consisted of grazed pasture with some vestigial coastal scrub and mixed chaparral. Other plant communities covered less than 10% of the remaining land area. They also noted the existence of several insular endemic species that were now limited in distribution but may once have been more abundant. Of particular concern to researchers were three endemic trees—the island oak (*Quercus tomentella*), the Santa Cruz Island pine (*Pinus remorata*), and the Santa Cruz Island ironwood (*Lyonothamnus floribundus* var. *asplenifolius*). They believed all of them had been adversely affected by grazing. They also found very low numbers of an endemic species of manzanita (*Arctostaphylos confertiflora*) and came to the same conclusion (see plate 4b). The scientists could not find any of the endemic Hoffmann's rockcress (*Arabis hoffmannii*), known to have been present on the island in the past, and presumed it had been extirpated. Small numbers had recently been discovered on Santa Cruz Island following the removal of feral sheep and researchers suspected that the same might also occur on Santa Rosa if livestock grazing was reduced or eliminated.

The Clark report stated that grazing by introduced livestock was having a negative impact on the island's natural ecosystems and would continue to cause resource damage as long as the animals remained. These assertions reflected the researchers' assessment of current conditions, but were also based on evidence of past changes in the landscape derived from historical records. These sources corroborated the Clark report's claim that "...the vegetation of the islands has undergone dramatic changes over the past century" with the introduction of modern American land use practices, especially ranching.[784]

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783 Ronilee A. Clark, William L. Halvorson, Andell A. Sawdo, and Karen C. Danielsen, Plant Communities of Santa Rosa Island, Channel Islands National Park, CPSU Technical Report No. 42 (Davis, CA: University of California, 1990). Relevé is a visual estimation of different species' coverage along one or more transects.

784 Ronilee Clark et al. did not consult these primary documents directly, but instead relied on published secondary sources that did. They provide the following two references: Ralph N. Philbrick, ed., *Proceedings of the Symposium on the Biology of the Channel Islands* (Santa Barbara, CA: Santa Barbara Botanical Gardens, 1967); William L. Halvorson et al., "Soils and Vegetation of Santa Barbara Island, Channel Islands National Park, California, USA," *Environmental Management* 12 (1988) 109-118.

Historical Evidence

The first recorded description of the islands was made by Bartolomé Ferrelo, the pilot for Spanish explorer Juan Rodríguez Cabrillo, who reached the Channel Islands in 1542. Although the expedition spent nearly two months on Santa Rosa and San Miguel Islands during the winter of 1542–43, Ferrelo's account is limited to the most basic facts:

> *On Tuesday, the 29th of January, they left Isla de Juan Rodriguez [San Miguel] to go to Isla de San Lucas [Santa Rosa], which is in the middle of the other islands, in order to recover some anchors they had left during a storm and could not take along. They picked them up and took on water. They left Isla de San Lucas on Monday, the twelfth of February. They were unable to do this sooner, because of the wretched weather that consisted of high winds and snow. It is inhabited and the people resemble those on the other island. The Indians call it Nicalque. There are three villages on it, whose names are Nicochi, Coycoí, and Coloco. On this day they went to Puerto de las Sardinas [Goleta, on the mainland] to take on firewood and other things necessary for their voyage which were not available on the islands.*[785]

It is interesting to note that there was snow that winter, an occurrence that rarely happens today, but there is little to suggest what the island itself might have been like or what sort of vegetation was growing on it. The only relevant detail is suggested by the comment that the Spanish sailors were not able to gather firewood on either San Miguel or Santa Rosa Islands but instead had to sail to the mainland. If there were forests on Santa Rosa Island, they must not have been very extensive or easily accessible from the shore.

Later Spanish accounts were little better. When Franciscan Father Estevan Tapis of Mission Santa Barbara proposed establishing a mission on Santa Cruz Island, he wrote to his superior describing the location with only the most rudimentary physical information. "The Island offers all of the prerequisites for a mission," Tapis explained, "since according to information from the Island Gentiles [the unbaptized Indians] and also from some Christian Natives from the same island, it is abundant in pine wood, firewood, water and other things necessary for a settlement." But as Fr. Tapis implied, neither he nor any of his missionary brethren had actually visited the islands, so the lack of detail in his account was not surprising. Not until after the middle of the 19th century, when the Channel Islands became part of the United States, did more satisfying accounts of the physical character of the islands appear.[786]

One early American writer who gave attention to ecological details was a member of George Wheeler's western geographical survey in 1875. Dr. J. T. Rothrock, leading a special natural history party in January of that year, made a brief reconnaissance of the Northern Channel Islands. His remarks are particularly valuable because they come early in the history of ranching, not long after livestock were first introduced on an intensive basis; and because his comments reflect a trained scientific judgment. Although Rothrock apparently visited only Santa Cruz Island, his observations are also relevant to Santa Rosa Island, which lies in proximity and shares a similar history of sheep ranching during the 19th century. Commenting on the destructive

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785 Cabrillo National Monument Foundation, *An Account of the Voyage of Juan Rodriguez Cabrillo* (San Diego, CA: Cabrillo National Monument Foundation, 1999) 80.

786 Father Estevan Tapis to Governor José Joaquin de Arrillaga, 1805, in Dewey Livingston, "Island Legacies: A History of the Islands Within Channel Islands National Park," NPS Historic Resource Study, 2016, 403-404.

effects of overgrazing by these animals and its possible implications on the availability of water, he wrote:

> *It is impossible to conceive [of] a more dreary waste than was here produced as the result of over-pasturage. The question may come up further on as to the reciprocal relations existing between vegetation and rain-fall. It would seem more than probable that ever since the discovery of the continent this and the adjacent islands had a more abundant supply of water than at present. Tradition as well as historic documents prove that in no distant past they supported a population that must have reached into the thousands. Indeed the burial-grounds, that are so numerous and so rich in articles of archaeological interest, are often at points at which there is no water nearer than 3 or 4 miles, and there is abundant evidence that near the burial-places they had their permanent homes. What must have been the population that could cover, within a few centuries, an acre, to the depth of 10 or 20 feet, with the ordinary clam, muscle (sic), and haliotus of the coast which were simply the refuse of their feasts. Yet, standing on one such shell-heap, I was able to count over twenty others within easy sight. This presupposes an immense population, and that, again, water in abundance at a point where none now exists. What has been the cause of this desiccation I am not able to say.*[787]

Despite his reticence and ignorance of the true length of the settlement history, Rothrock implied that a reduction of forest canopy brought about by recent land-use practices caused this decline in precipitation. Such a conclusion would have been natural for Rothrock to reach, since it was a common theory of his day. Later studies corroborated his inference that a significant relationship exists between vegetative cover and the availability of water but also suggest that the dynamic is more complex than he suspected.

Rothrock's observations were far more important than his theories, however, for they clearly describe a landscape that had undergone a substantial transformation in relatively little time. Not only had it been denuded by overgrazing, it was also drier. This was suggested by the visible evidence of a once-large and densely concentrated human population, the existence of which has been confirmed by archeological investigations. It was also suggested by the evidence of a more extensive forest, which was still apparent at the time of Rothrock's visit. He wrote:

> *It appears that at the time Cabrillo made his voyage along this coast, these islands were timbered clear to the water's edge, and we now have abundant signs of forests that have disappeared at the sea-level, where their stumps and roots still remain in situ. At present the indigenous forest-growth is limited to the highest summits of the island. A dense under-growth does in many places descend lower, but it never obtains to the dignity of a forest. It is simply a thicket.*[788]

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787 Dr. J. T. Rothrock, Acting Asst. Surgeon, US Army, "Report Upon the Operations of a Special Natural-History Party and Main Field-Party No. 1, California Section, Field-Season of 1875, Being the Results of Observations Upon the Economic Botany and Agriculture of Portions of Southern California," in Lt. George M. Wheeler, Corps of Engineers, "Annual Report Upon the Geographical Surveys West of the One Hundredth Meridian in California, Nevada, Utah, Colorado, Wyoming, New Mexico, Arizona, and Montana: Appendix JJ of the Annual Report of the Chief of Engineers for 1876," H. Exec. Doc. 1, pt. 2, v. 11, 44th Cong., 2nd. Sess., 1876, 203; See also, Paul Schumacher, "Some Remains of a Former People," *Overland Monthly* 15 (4) 1875, 374-379, in which Rothrock's expedition is mentioned and some additional description of the landscape provided.

788 Rothrock, "Report Upon the Operations," 202.

It is unfortunate that Rothrock did not provide a more detailed description of these stumps and roots to give us a better idea how extensive they were and possibly how old. While he dates their mortality to sometime after the middle of the 16th century, this cannot be confirmed by the vague descriptions of the Channel Islands left by Ferrelo. Ronilee Clark and her associates believed that a changing climate may have been the likeliest cause for the death of these trees and the retreat of the island forests from lower elevations to their present mountain top locations in the summer fog belt. Subsequent research in paleoclimatology has provided information that suggests that the coastal trees probably died sometime before, not after, Ferrelo's visit.

Dates and details notwithstanding, the significance of these findings lies in their implication that trees once dominated the island landscape but a gradual warming and drying climate over centuries converted it to scrub and grassland. In addition, the ancestors of the Chumash also used wood for boats, fuel, and implements. The only exception to this pattern of landscape change was the "fog forest" which survived in the elevation band influenced by the summer marine layer. This lies between about 1,000 and 3,000 feet above sea level. Trees and other woody vegetation growing here subsidize their moisture requirements with fog condensation that drips from their leaves and twigs and is absorbed in the humus-rich soil beneath the forest canopy. The bleaching stumps and roots that Dr. Rothrock witnessed in 1875 were probably vestiges of a much earlier time than he suspected. The trees may have been removed by sheep ranchers and fishermen to be used as firewood in the years prior to his visit, which would explain why such conspicuous evidence of environmental change was not remarked upon by later observers.

Ronilee Clark and her colleagues believed that Rothrock's observations seem to confirm the magnitude of environmental change that has occurred on the Northern Channel Islands and they suggested that these changes primarily resulted from natural rather than human-induced factors. The diminishment in areal extent of the island forest was apparently not the result of over-grazing—not even from the excessive over-stocking of sheep during the More family period—but was instead the result of a warming climate that occurred much earlier than the introduction of livestock. They based this conclusion on scientific evidence supported by anecdotal accounts from members of the Vail family. But Clark's study did reveal that grazing, even if it had not yet substantially reduced the extent of the island woodlands, had adversely affected new growth in these communities and threatened their longevity.

> *The woodland communities on Santa Rosa Island are regularly visited by alien herbivores which forage and disturb the soil surface, causing the characteristic depauperate woody and herbaceous understory, little litter accumulation and surface soil erosion. ... erosion is so extensive at the base of island oak trees that the survival of plants, at least at some sites, is threatened. Further, no reproduction of island oak has been documented in recent years. Soil erosion is apparently the cause of felled mature [island pine] individuals, and while some reproduction has occurred within this community, the long-term survival of the community may be in jeopardy. Recent observations of dead and extensively browsed ironwood trees raise concern for the survival of this taxa as well. Some populations of ironwood are in rocky ravines where soil erosion and litter accumulation are not concerns, however trees*

> *are being browsed so severely, with bark as well as twigs and leaves being removed, that some individuals are dying.*[789]

These findings suggested that grazing might result in the extirpation of these vestigial populations of once-extensive island woodlands. Subsequent scientific research, however, has offered another factor. Extensive use of fire by precontact populations on the islands has left evidence of widespread and fairly frequent use of fire.[790]

The implications of such losses would be more profound and far-reaching than the loss of aesthetic values alone. As park resource managers later confirmed, the amount of moisture that the high-elevation woodlands and associated scrub were able to capture was substantial, much more than anyone initially expected. Indeed, early attempts to measure this fog drip were inconclusive because the gauges filled so quickly that they could not be read before they overflowed.[791] The condensed fog that drips to the ground is absorbed into the topsoil and gradually percolates downhill, radiating outward from the central peaks and highlands to the plains and valleys below. Though it remains a matter of conjecture, this regular distribution of moisture from higher to lower elevations might have once kept the entire island well-watered, even during the seasons of extreme drought and sustained an environment far lusher than currently possible. The difference would have been most remarkable in stream channels where water might have flowed more regularly than it does at present, sustaining a richer, denser growth of riparian vegetation.

Although Clark believed that historic-era livestock grazing may not have been the initial cause of the reduced area of mature woodland, it has diminished woody scrub, which condenses fog at least as efficiently as trees. Even more importantly, unrestricted grazing has largely eliminated the herbaceous understory beneath woodland and scrub alike, allowing the humus-rich topsoil that once absorbed the falling moisture to erode away. The cumulative effects of these losses have reduced the amount of moisture being captured and distributed throughout the island by an unknown, but presumably significant, amount. If the present, attenuated scale of this process is any indication of what it was like before the introduction of livestock, the overall contribution to the island ecosystem must have been prodigious. In order to preserve what remained of this unusual and ecologically vital phenomenon, the Clark report recommended that the remaining woodlands be fenced off but cautioned that effective restoration would require the removal of all exotic grazing animals.

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789 Clark et al., Plant Communities, 47.

790 R. Scott Anderson, Scott Starratt, Renata M. Brunner Jass, and Nicholas Pinter,"Fire and vegetation history on Santa Rosa Island, Channel Islands, and long-term environmental change in southern California," *Journal of Quaternary Science*, 25, (5), 2010, 782-97.

791 Sarah Chaney, park botanist, personal communication with Timothy Babalis, August 8, 2009; See also, Douglas T. Fischer, and Christopher J. Still, "Evaluating Patterns of Fog Water Deposition and Isotropic Composition on the California Channel Islands," *Water Resources Research* 43 (2007) 1-13.

Figure 7-1. Fog frequently covers the higher portions of Santa Rosa Island. It condenses on the hilltops providing a significant amount of water for vegetation.

Source: Photograph by L. Dilsaver, October 2017.

Figure 7-2. A stand of Island live oak (*Quercus tomentella*) on Sant Rosa Island. Note the darker wet spots under the trees formed by the runoff of the condensing for that sustains them.

Source: Photograph by L. Dilsaver, October 2017.

Early Relations between the National Park Service and Vail & Vickers

The relationship between the Park Service and the Vails on Santa Rosa Island remained mostly cordial for the duration of the Vail & Vickers Company's first special use permit, which expired in 1993. This was due in large part to the close relationship that had developed between the Vail family and Superintendent Bill Ehorn during the 1980s. Ehorn had worked closely with the Vails since 1979, first convincing them to support the park legislation, then negotiating over the sale of the island in 1986 and establishing the SUP agreement the following year that allowed Vail & Vickers to continue ranching on favorable terms. Ehorn had also become a personal friend of the family, coming to admire Al and Russ Vail and the talented, hard-working cowboys they employed on the island. As a result, Ehorn wanted to cooperate with the ranchers as much as he could and to preserve their way of life and the cultural traditions that were associated with it.

Ehorn grew up in rural California and was familiar with horses, so not long after the establishment of the park he asked Al Vail if he could come out and ride with him on one of the cattle roundups. Al, who managed the ranching operations, eventually invited him. Ehorn later recalled his experience,

> *I remember the first trip I came out here on the roundup. We probably had eight cowboys and Al and I, and we went up this road, right up here off of Soledad [Peak] and went down a ridge that went north down to the Arlington Canyon. He made me go right along with him, so I just followed him on my horse. We stopped at one place up there, and looking out across that canyon there, the cowboys were coming down, each one [down] a separate ridge. All the cattle would be single file in front of them, and there would be a herd of elk right over there, and they would be running down there. So, Al just sat up there on a peak and he kinda went half asleep, and then he'd wake up and say, "Isn't it beautiful? Look at all the cattle going down through there, look at all the elk over there!" It was exciting to sit there with him, and I happened to have a camera with me, and I took a picture of him. He was sitting down below the horses, and the horses were standing up in the background. I'm not a professional photographer. I just did a snapshot, and it ended up being a beautiful photograph. When I got back to the park, I had it blown up, and I framed it, and I gave it to him. I liked it so much, I framed one for myself, so I have a great big picture of him on my wall at home.*[792]

After that first roundup at Arlington Canyon, Al Vail began to count on Ehorn coming out at least once every year. Ehorn usually arrived for the spring roundup and spent about a week riding with the other cowboys, helping them gather the cattle. He got to know many of the cowboys quite well on these occasions, talking to them about their life on the island and watching them practice various crafts or skills, such as weaving an elk hide reata (lariat), mending a homemade saddle, or roping wild pigs with a lariat. Through these experiences, Ehorn came to appreciate the wealth of history and traditions that were associated with the ranch.

After Bill Ehorn left Channel Islands in 1989, this close relationship between the park and the Vail family began to deteriorate. The new superintendent, Mack Shaver, did not endear himself to the Vails when he insisted the new special use permit needed to give the power of managing

792 William Ehorn, taped commentary during a visit to Santa Rosa Island, December 6, 2001. Recording and transcript on file in CINP Archives, Cat. 35833.

Santa Rosa Island to the National Park Service, now the legal owner of the property. Shaver and his staff began drafting a new special use permit as the date for the expiration of the old permit approached. Setnicka and Shaver agreed that the goal of the new permit would give the National Park Service control. Setnicka, as operations chief for the park, would be on Santa Rosa Island most often, checking on staff and park resources located at Johnsons Lee, far from the airfield and the ranch, because this is where the Vails wanted the National Park Service. Shaver would be the face of negotiation, going to the island when he needed information for the agreement, as well as to look at ongoing resource projects.[793]

According to Nita Vail, Al Vail's daughter, her family came to believe that Superintendent Shaver rarely travelled to the islands or visited park neighbors directly, preferring to communicate by written correspondence and official memoranda. This seemed to alienate the Vails even though Shaver's policies remained essentially unchanged from Ehorn's. In reality, although Shaver's regional duties took him out of the park for a week each month, he made it a practice to work on one island one day each week, partly to support the staff and partly to monitor issues. Tim Setnicka, who served as chief of operations under Shaver, was left in charge during the superintendent's absences. Setnicka was more outgoing and enjoyed working with people. He might have filled Ehorn's role with the ranchers were it not for his penchant for confrontation and his lack of tact, which created tensions among both staff and neighbors alike. Some of the ranchers also considered Setnicka to be dishonest.[794] Amid the difficult relations between Vail & Vickers and the park's upper administrative and natural resource staff, the NPS island rangers and maintenance personnel always got on well with the ranchers, working cooperatively with the Vails and the island cowboys.

Early Park Projects

Channel Islands National Park carried out a number of important projects on Santa Rosa Island during the first few years of Shaver's superintendency, including the eradication of pigs (see chapter nine). The park previously had established its headquarters at Johnsons Lee in 1987, immediately after the purchase of the island. Six staff members—two law enforcement rangers, two interpreters, and two maintenance workers—alternated 10-day tours on the island. They occupied travel trailers and "commuted" across the island to greet visitors, lead hikes, and maintain the facilities at Bechers Bay.

In January 1990, preliminary discussions on a development concept plan (DCP) for Santa Rosa Island began. The DCP planners renewed the 1985 General Management Plan prescriptions to gather more data to guide physical development on the island and to coordinate both administrative operations and visitor use. They began public scoping for the process in February 1990 and completed an initial draft the following year. The preferred alternative recommended a daily carrying capacity of about 230 visitors, with approximately 75% of these being overnight guests. The planners proposed visitor facilities through the adaptive use of existing ranch buildings; development of visitor contact stations at Bechers Bay and Johnsons Lee; concession-operated, guided horseback trips; vehicle tours; and a small hotel or hostel for overnight accommodations. The plan called for campgrounds at both areas with day use picnic

793 Charles "Mack" Shaver and Holly Bundock comments to Lary Dilsaver, October 28, 2019.

794 This opinion of Setnicka, and the ranching community's less than positive assessment of Superintendent Shaver, were expressed by Nita Vail, Al Vail's daughter, in conversation with Timothy Babalis, September 25, 2009. She had little personal contact with Superintendent Shaver leaving it to her father and uncle to deal with the park.

accommodations provided. Administrative facilities would consist of maintenance offices and workshops, employee residences, and a combined science and environmental education center near the ranch. The Vails wanted the NPS structures to remain outside the viewshed from the ranch and influenced the location of those facilities.[795]

Although marginally less intensive, the Santa Rosa Island DCP proposed much the same level of development as the 1985 GMP and the earlier Land Protection Plan. Like the GMP's preferred alternative, the DCP also placed considerable emphasis on the restoration of natural systems over the remaining portions of the island to repair the effects of more than a century of livestock grazing. Hence, ranching was viewed as causing a negative impact. The planners acknowledged only the historic ranch complex at Bechers Bay as having any historical significance worthy of preservation. The final DCP for Santa Rosa Island was completed and approved in early 1995, but by that time other events had begun that rendered many of its proposals irrelevant.[796]

In the course of gathering the data for the DCP, and as a byproduct of the park's inventory and monitoring (I&M) program, park researchers continued to collect evidence that problems existed with the island's habitats. In 1991, the park's resource management division requested a survey by a team of scientists from the US Forest Service (USFS) to assess water quality and associated habitats on Santa Rosa Island. The Forest Service team surveyed riparian habitats on Lobo and Arlington Creeks along the north side of the island. Once again, the scientists warned that these areas "continued to be highly impacted by cattle." Their conclusions supported the park's decision the following year to fence off the lower third of Lobo Canyon to keep cattle out of sensitive habitat that still supported native vegetation and ground-nesting birds. Al Vail tried to oppose that proposal, believing it would interfere with his cattle business, but finally had to relent.[797] Reacting to his grudging acquiescence, one resource manager observed, "Santa Rosa Island continues to be managed as a cattle ranch in essentially the same manner as prior to its purchase by the National Park Service." Though stated as a matter of fact, the comment reflected growing concern among scientists and members of the natural resource division that the park's conciliatory attitude toward the ranchers was compromising fundamental park values.[798]

Another change that Vail & Vickers eventually had to accept—minor as far as ranching was concerned but significant for the future of natural resources on Santa Rosa Island—was construction of exclosures around the oak woodlands on Black Mountain and Soledad Peak. As Ronilee Clark observed in 1988, these groves were essentially moribund.[799] Vail family members insisted that the extent of woodland cover had not diminished over the course of the ranch's history, but it also had never increased.[800] This was because livestock grazing eliminated new young trees. Over-cropping native groundcover, which had largely disappeared by the time of Clark's survey, also had caused erosion of the topsoil from the steep slopes beneath these

795 NPS, "General Management Plan for Channel Islands National Park," January 1985; Shaver and Bundock communication to Lary Dilsaver, October 28, 2019, text of these comments held by Chief of Cultural Resources Laura Kirn at CINP; Kate Faulkner comment to Lary Dilsaver, January 14, 2019.

796 NPS, "Development Concept Plan & Environmental Impact Statement Santa Rosa Island, Channel Islands National Park," September 1995.

797 Bill Ehorn taped ranch visit, December 6, 2001. Recording and transcript on file CINP Archives, Cat. 35833.

798 NPS, Channel Islands National Park: Resources Management Plan, 1994 (Ventura, CA: CINP, 1994) 24.

799 Clark et al., Plant Communities, 47.

800 Margaret Vail Woolley, interview by Ann Eggers Jones, March 10, 1994. Transcript on file at Santa Cruz Island Foundation.

groves, making survival of new trees even less likely. Although few of the mature trees had actually died, as Vail family members observed, those remaining often suffered severe stress caused by the erosion of soil from around their roots. In some instances, individual oaks stood several feet above the present ground level. Many of these trees could not survive much longer, and after they died, they would not be replaced by new saplings as might be expected under healthier conditions.

The predicted fate of the oaks illustrated the negative effects of unrestricted grazing on this fragile environment. Although most of the damage to Santa Rosa Island's oak woodland probably stemmed from overstocking sheep by the More family, the continued morbidity of these woodlands long after the Mores' departure weakened the Vail family's claim that they, by contrast, practiced wise and careful stewardship of the island's resources. In fact, they managed the island to maximize the productivity of the cattle range, not to preserve the island's natural diversity. Since the oak woodlands were not essential to beef cattle production, the Vails may not have noticed the impact that cattle were having on these trees and failed to appreciate that continued livestock grazing would eventually doom the groves. In March 1991, the National Park Service initiated one of the earliest tangible steps in the natural restoration of Santa Rosa Island with the eradication of feral pigs. This process lasted two years and killed nearly 1,200 animals. Vail & Vickers fully supported this action.[801]

The Second Permit (1993)

The most important development associated with Santa Rosa Island that occurred during Superintendent Shaver's tenure was the renewal of the special use permit originally negotiated in 1987. That SUP allowed the ranchers to continue their operations, but did not specifically elaborate what would happen if conflicts arose with park purposes. As formally written, the special use permit was meant to allow "...the purpose of operating a beef cattle ranch and a commercial hunting operation for feral elk, deer and domestic swine *compatible with the administration of the park and with the preservation of its resources*."[802] [Authors' emphasis]. This formula, which paraphrased the 1980 enabling act, stated that the park would have precedence over the ranch, and that the latter would be managed to accommodate park resource protection and related operations.[803] Critics of the agreement later referenced this passage, claiming that ranching operations as practiced under the SUP were not compatible with park values. Principal among the criticized activities was grazing. This raised questions about the legitimacy of a permit that allowed this practice in a national park. Members of Congress had vociferously complimented the ranching activities on the island and during hearings on the park legislation repeatedly offered a reservation of use and occupancy or a leaseback to allow it to continue. Even NPS Director William Whalen had confirmed this understanding at the time, although he did not give approval to the hunting operation on NPS-owned land.[804] These statements led

801 See chapter nine.

802 Ibid.

803 Public Law 96-199, Section. 202 (d)(2).

804 Whalen responded to a question from Senator Bumpers, "Mr. Chairman, on the land that will be ours and under our control, we would have no hunting. On the privately retained property, hunting could still occur but we would hope to work with the landowner on the whole hunting program, but in the case of the area where hunting is going on, it is really good because there are a lot of exotic animals there that have been introduced. If they were reduced by the hunters, it is certainly to our benefit." Hearings Before the Subcommittee on Parks, Recreation, and Renewable Resources, of the Committee on Energy and Natural Resources, United States Senate, 96th Cong., 1st. sess., July 19, 1979.

Superintendent Ehorn and other officials in the park and regional office to offer the 1987 SUP to allow for a phaseout of those practices over "five to ten years." The only question was whether changes in current ranching practices or levels of intensity threatened the park's resources. Congress did not specify a duration in the enabling act leaving them to be negotiated directly between Vail & Vickers and the National Park Service.[805]

Many of the practical conditions written into the original SUP and reaffirmed in 1993 contradicted the interpretation suggested by the "compatibility" phrase, because they emphasized ranching as the principal activity on Santa Rosa Island. For example, the permit gave priority use of the pier at Becher's Bay, the most practical means of access to the island at that time, for cattle operations. It also explicitly identified park-related activities as secondary to those of ranching, as suggested by the following clause:

> *Issuance of this permit does not preclude use of the property by the National Park Service for recreational and research purposes or the right to establish trails, roads, or other improvements or uses that are consistent with the purposes of the National Park. However, the National Park Service will make every reasonable effort to refrain from exercising such right or allowing such recreational or research use to the extent that such actions would unduly interfere or prevent the use of the land by the Permittee for the purposes intended under this permit.*[806]

The intended purposes referred to were, of course, ranching and hunting. This bias was further supported by a Range Management Plan that was prepared by Dr. James Bartolome and W. James Clawson in anticipation of the renewal of the original SUP. This plan established a maximum stocking limit based on traditional rangeland management principles but had little to say about the preservation of natural resource values. It also failed to include exotic deer and elk in its calculations, resulting in a significant understatement of the grazing impact on the land.[807]

Vail & Vickers insisted that several qualified scientists familiar with Santa Rosa Island believed that the ranchers' operations did not threaten the island's rare plant species, which had suffered the greatest damage during the sheep grazing days in the 19th century. The consensus among them was that conditions on the island had remained stable or even improved under Vail & Vickers' subsequent management. Clawson stated publicly that:

> *The majority of resource damage on Santa Rosa Island was caused prior to 1902 by sheep, not by recent livestock management practices. Since 1902, Vail and Vickers have implemented improvements in livestock management that have significantly benefitted plants and animals. They have removed sheep and pigs completely and significantly improved management of elk, cattle and horses. The program entered*

805 Ibid.

806 NPS, "Special Use Permit," 1987.

807 James W. Bartolome and W. James Clawson, Range Management Plan, Santa Rosa Island (Ventura, CA: CINP, 1992); Comment by Kate Faulkner, January 14, 2019, "The US Fish & Wildlife Service wrote a 12 page letter to CHIS describing the shortfalls of the Range Management Plan in protection of the island ecosystem and individual species."

> *into in the range management plan I prepared with Dr. Bartolome continued the history of improved resource protection.*[808]

With such lenient restrictions placed on Vail & Vickers, it is not surprising that critics of ranching on the island would eventually accuse the National Park Service of bowing to private interests at the expense of publicly owned natural resources and recreational assets. But in the early years of the SUP agreement, some park administrators and many of the park's political supporters did not believe that there was any significant contradiction between ranch operations and fundamental park values, with the possible exception that visitation and public enjoyment of the park might have to be limited. Yet, Public Law 96-199 actually states, "Any right retained… shall be subject to such access and other provisions as may be required by the Secretary for visitor use and resources management." Key early park administrators nevertheless supported the continuation of traditional ranching even after limited park operations started on the island in 1987. In March of that year, during the early negotiations with Vail & Vickers, Bill Ehorn told the *Santa Barbara News-Press* that the ranchers would continue for "several years."[809] In 1994, he stressed that a 25 year-term was the expectation when the first SUP was signed:

> *There has been a long-term, good-faith process of negotiation which has always had ranch continuation as its cornerstone. The assumption has always been made that the Vails would continue their ranch operation as long as they had interest in doing so (up to some reasonable period of time which by standard NPS acquisition practices has generally been 25 years). Congressman Lagomarsino made that assumption when he first approached the Vails about park establishment in 1978 and he continues to have the same view today... The Congress assured the Vails as much during Congressional hearings and actions. All NPS negotiations were based upon the fact of ranch continuation. All planning documents since the park was created ... assumed it was an agreed upon right. The day-to-day working relationship with the Vails (which has usually been amiable) includes that understanding.*[810]

This statement, sent to like-minded Regional Director Stan Albright more than four years after Ehorn had left Channel Islands, did not acknowledge the fact that a special use permit lasts only five years and that earlier statements had discussed a 5- to 10-year phaseout of grazing. Furthermore, the SUP is not a "right." The Vails had had the opportunity to retain the "right" to continue cattle ranching through an RUO or leaseback at the time the National Park Service purchased the island. There was little in Ehorn's statement to suggest that the park might be compromising fundamental values by accommodating ranching. While he conceded that there might be some negative impacts to rare plants, he pointed out that the Park Service "has a long history of insisting on the coexistence of conflicting preservation and use objectives beginning with the organic act." He believed the park could resolve any potential problems through open-minded negotiation.[811] That confidence did not extend to Ehorn's successor, Mack Shaver. In a

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808 Ibid., Clawson served from 1972 to 1992 as the UC Extension Service Range Specialist, based out of University of California, Davis, and from 1992 to 1995 as Extension Range Specialist Emeritus.

809 William Ehorn to *Santa Barbara News-Press*, March 15, 1987.

810 William Ehorn to Stanley Albright, January 25, 1994, copy courtesy of Marla Daily, Santa Cruz Island Foundation.

811 Ibid.

later interview, Shaver reported that the 1987 permit "sounded like the Vails had written the SUP to allow the Park Service on the island…and I would have balked at that even if I hadn't been briefed by the [NPS] staff."[812] He and his staff subsequently developed a second SUP that would (1) get the Vails to stop off-road driving; (2) fence in riparian areas to keep stock and game animals out; (3) start planning to remove the deer and elk and reduce hunting; and (4) allow the National Park Service to establish housing away from Johnsons Lee.[813]

Shaver decided that the renewal of the special use permit needed to be rewritten to give the National Park Service the management authority over the island. He sent his proposed SUP to Regional Director Albright who rejected it out of hand and ordered the superintendent to keep the same conditions as the first permit and to lower the AUM (animal unit month) costs to the Vails. Later Shaver wrote:

> *I always thought that we could solve all of those issues with a proper SUP. It would have cut the time way down and saved so much angst. The draft the staff and I wrote dealt with all the issues but the Vails called Stan and complained and Stan told me to put it back the way it had been in the first SUP. The only concession we really got was to move our island staff housing closer to the ranch from Johnson's Lee and an OK to use the pier and start planning a visitor campground. Once that got out, and it wasn't secret, the concerned agencies and organizations took off to force the issues via lawsuits. If Stan had had a backbone and approved the SUP as written, and supported us in enforcing it, it would have saved years of time and thousands of dollars because all those stipulations came to pass, but at large cost.*[814]

Subsequently, Shaver and other park officials described Albright as extremely averse to controversy and anxious to let the Vails finish their 25-year operations on Santa Rosa Island.[815] Kate Faulkner later wrote:

> *Preparation of the second permit was significant because it was the first time that staff looked for the documents that Ehorn said the first permit was based on. CHIS [CINP] staff had been told by Ehorn, and believed, that the deed of sale required NPS to allow V&V [Vail & Vickers] to continue their operation without interference by NPS. Also, the first permit indicated that a NEPA [National Environmental Policy Act] document (an EIS) [Environmental Impact Statement] had been prepared. Shaver began the process of trying to understand the situation and asked the involved division chiefs to be familiar with the documents. When it was clear that there was no EIS and there was nothing in the deed, Shaver tried to draft permits (we worked on separate permits for hunting and ranching) that reflected NPS legal responsibilities. This was shot down by the Vails and Albright.*[816]

812 Mack Shaver interviewed by Ann Huston, March 29, 2019. Recording on file in CINP Archives.

813 Ibid.

814 Communication from Charles "Mack" Shaver and Holly Bundock to Lary Dilsaver, October 28, 2019, text of these comments held by Chief of Cultural Resources Laura Kirn at CINP.

815 Ibid., Holly Bundock comments, October 28, 2019.

816 Kate Faulkner communication to Lary Dilsaver, May 20, 2019.

The most remarkable feature of the eventual second SUP was its ordinariness. The only modification from the original version was a reduction in the grazing rate from $1.48 to $1.00 per animal unit month (AUM), even further below the typical grazing rate used by the Bureau of Land Management. This gave a significant financial benefit to the Vail & Vickers Company by reducing their rent nearly 32% from approximately $80,000 per year to $54,000. Under the renewed agreement, the permittees were allowed approximately 5,000 head of cattle, 700 deer, and 1,100 elk. The deer and elk would continue to be hunted for recreation and profit under contract to commercial operator Wayne Long of Multiple Use Management.[817]

At the same time, Tim Setnicka, who was acting superintendent whenever Shaver traveled, nominated Vail & Vickers for the Governor's Environmental and Economic Leadership Award in 1993, the first year it was given. Governor Pete Wilson, who previously had supported the Vails, granted the award, considered to be California's most prestigious environmental honor, in recognition of Vail & Vickers' wise conservation of resources and their ability to maintain the continuing economic viability of the island cattle ranching operation.[818]

Critics of Ranching

In spite of the good relationship forged between Bill Ehorn and Vail & Vickers, as well as Stanley Albright's efforts to continue it, four attributes of the park's scientific research led to growing criticism of ranching. First, Public Law 96-199 explicitly demanded preservation of the unique ecology of the islands, even insisting on biennial assessments of the resources as reports to Congress. Second, as part of the response to this legislative demand, the park initiated the inventory and monitoring program that became a model for the agency and was enshrined in 1998 legislation. Third, that program demanded a substantial staff to execute it and frequent consultative investigations by outside scientists. The park received a substantial increase in base funding for its natural resources division to develop its monitoring program. The financial improvement allowed it to hire more staff in 1992. Finally, the flurry of baseline studies and scientific investigations revealed conditions that had only been suspected previously. The growing ecological evidence of the destruction caused by herbivore grazing and range management led park managers to increasingly view it as contrary to habitat restoration. Later, former Chief of Natural Resources Kate Faulkner wrote:

> *The growing ecological evidence of the destruction caused by herbivore grazing and range management led park managers to increasingly view it as incompatible with protection of the ecological or archeological resources of the island. NPS managers attempted to modify grazing practices in order to mitigate damage to the most sensitive resources. NPS required that salt blocks be moved away from water courses in order to limit the numbers and duration that cattle spent in streams or nearby riparian habitats. V&V did not comply with this requirement. The NPS proposed to seasonally restrict grazing in Old Ranch Pasture to protect nesting Western Snowy Plovers and rare plants. V&V refused any modifications to their ranching operations.*[819]

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817 See Chapter Five; DOI, NPS, "Special Use Permit No. WRO-8120-2600-001," December 29, 1987, CINP Central Files, SRI Binder No. 3, D.1.a.

818 Mack Shaver interview, March 29, 2019.

819 Kate Faulkner communication to Lary Dilsaver, May 20, 2019.

In February 1993, the park summarized its position concerning the impacts of ranching on Santa Rosa Island in a briefing statement prepared for the 103rd Congress, entitled, "Loss of soils and vegetation due to grazing on Santa Rosa Island." The document explained that:

> *Pressure exerted by grazing animals in combination with periods of drought has caused severe damage to insular communities, in some cases resulting in the possible loss of native plant and animal species and extensive soil erosion. Continued grazing has caused a severe reduction in the supply of seeds for the annual grasses on the island. This leads to a reduced amount of new grass even after rains come. . .The soils on the island are eroding rapidly in a number of areas. Approximately 7 percent of the island is bare ground. An additional, unknown percentage of the island is bare ground between widely spaced plants. Loss of topsoil results in an expanding, and nearly impossible to reverse, situation where (1) vegetation cannot become established due to the lack of soil, and (2) additional erosion occurs due to the lack of vegetation.*[820]

The briefing statement also reported that cattle grazing was negatively impacting sensitive riparian habitat on the island by forcing cattle to concentrate in those limited, well-watered areas during drought years. These assertions were corroborated by a research team organized through the NPS Water Resources Division with significant consequences for management decisions within the agency. The team observed that:

> *the ranch is required to have an approved Range Management Plan. The current [Bartolome and Clawson 1992] plan is inadequate in its treatment of stocking levels, vegetation condition, and areas needing reduced or no grazing, lacks sufficient restrictions to protect island resources. . .A new [plan] is being drafted and will be approved early in 1993 in order to continue the operation. The park intends that the new plan will adhere to professional guidelines for range management and will ensure that the island resources are not degraded by setting minimum vegetation residues.*[821]

The statement went on to explain that a new position of range management specialist had been established at the park to address the shortcomings of existing management policies and to develop a new range management plan that would be more sensitive to natural resource values. This position was filled by Cece Sellgren on a term appointment in 1992. The Range Management Plan that she subsequently prepared concluded that cattle would ultimately have to be removed from Santa Rosa Island to restore the natural processes that were threatened by traditional ranching practices. This conclusion was later incorporated into the 1995 DCP for Santa Rosa Island.[822]

As the ecological evidence mounted, Kate Faulkner became troubled with the legal position of the National Park Service and the unorthodox arrangement that allowed ranching to take

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820 DOI, NPS, Western Region, "103rd Congress Briefing Statement: Loss of soils and vegetation due to grazing on Santa Rosa Island," February, 1993, History Program Collection, Pacific West Regional Office (hereafter PWRO), San Francisco, CA.

821 Ibid.

822 Ibid., Cece Sellgren, "Fall 1995 Forage Monitoring Program Santa Rosa Island, Channel Islands National Park," February 5, 1996, CINP Archives, Cat. 06843, Acc. 00304.5, Series 1, Folder 057. This was similar to the 1984 General Management Plan concepts of only a small demonstration ranch for interpretation plus a cessation of hunting.

precedence in management of the island under a special use permit. In 1992, she had queried NPS Regional Environmental Compliance Coordinator Jim Huddleston who had recommended an environmental assessment for the first SUP in 1988. This was not done. He reviewed the current situation and concluded that a separate management plan and environmental assessment should be carried out to legally clarify policy. However, after pressure from Regional Director Albright, he later reversed his statement and suggested that the SUP be handled through a categorical exclusion under NEPA, rather than a full environmental assessment.[823] Faulkner's frustration resulted not only from what the scientific data showed, but with what she saw as an operating premise that gave Vail & Vickers preference in designating when scientists and the public could go to various portions of the island. Hitherto, if cattle were present or a hunt was ongoing the National Park Service had to change its schedule. She later wrote:

> *The natural resources staff wanted seasonal grazing of Old Ranch Pasture to protect a number of resources, including soon-to-be-listed endemic plants. The Vails were adamant about resisting any changes to their operation. They saw it as a slippery slope. Before they knew it, the landowner might think they could tell the Vails what to do.*[824]

The mounting evidence of damage from grazing collected by the park was supported by events occurring simultaneously outside the park. Foremost among these was the listing, on March 5, 1993, of the Pacific Coast population of the Western snowy plover (*Charadrius alexandrinus nivosus*) (see plate 5c) as a threatened species under the Endangered Species Act.[825] Under pressure from the National Parks and Conservation Association to provide better protection for the plover, Channel Islands constructed a three-mile electrified fence to keep cattle off the dunes between Skunk Point and East Point. This stretch of native dunes represented one of the few remaining nesting habitats for the snowy plover on the California coast, and many scientists were worried that the cattle, which had unhindered access, might disturb or even crush the nesting birds. Anecdotal accounts indicated that this was already happening. Trudy Ingram, a seabird biologist hired by the park, first raised this concern. She also pointed out that cattle had an even greater indirect impact on the plover by creating conditions that supported predators such as ravens, that eat the plovers' eggs and chicks.[826] Although the fence would do nothing to address the corvid problem, Ingram insisted that it should still be installed, reasoning that some action was better than none.

The park administration, represented by Superintendent Tim Setnicka after Mack Shaver's retirement, agreed to implement the proposal. Setnicka, who was sympathetic to the ranchers and frequently critical of his own resource staff, was not convinced that the scientific evidence justified the construction of the fence, but with the ESA involved, the park had a heightened obligation to take appropriate actions to conserve listed species. Park biologists wanted to seasonally restrict grazing, but neither Setnicka nor the Vails supported this more effective solution. Representative George Radanovich, who represented the distant Fresno area,

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823 Kate Faulkner communication, May 20, 2019.

824 Kate Faulkner comment on the Babalis draft of this manuscript, September 15, 2014.

825 Karen J. Miller, "Determination of Threatened Status for the Pacific Coast Population of the Western Snowy Plover," *Federal Register* 58.42 (March 5, 1993): 12864-12874.

826 Independent studies cited in the Fish and Wildlife Service's final rule had found that these predators accounted for 67 to 69 percent of nest failures in monitored populations. Ibid.

protested the fence plan as an unnecessary expense to the taxpayer and a financial burden to the ranchers because it would limit their access to valuable grazing lands.[827] Congresswoman Andrea Seastrand representing Santa Barbara called it another overreach of the ESA on private property, blithely ignoring the fact that the National Park Service owned the island.[828] Nevertheless, workers completed the fence two years later in June 1995 at a cost to the National Park Service of $10,000. It proved difficult to maintain and was generally ineffective at keeping the cattle off the dunes. Ultimately, the park abandoned it for that reason and because it did nothing to protect the plovers from the threat of predatory ravens.[829]

Two years after the negotiation of the second SUP, the park encountered another challenge to existing management policies, this time with more serious consequences. In July 1995, the US Fish and Wildlife Service proposed to list under the ESA 19 plant species on the Channel Islands, 16 of which lay within the park, and 11 on Santa Rosa Island alone.[830] The USFWS biologists designated another 74 plants on Santa Rosa Island as "species of concern." They identified soil loss, habitat alteration, predation caused by cattle grazing, browsing by elk and deer, and competition with alien plant taxa as threats to the continued viability of these threatened plant species. Owing to a court-imposed moratorium, the USFWS would not be able to do anything until after September 30, 1995, and a one-year review period would follow any decision to list. Nevertheless, this regulatory activity substantially increased pressure on the park to modify its permit with Vail & Vickers. In response to anticipated legal action, the Park Service, through its Water Resources Division (WRD), hosted an interagency team of specialists to make a field assessment of representative stream reaches on Santa Rosa Island. The team included experts in vegetation ecology, fluvial geomorphology, hydrology, and riparian-wetland science. They conducted their fieldwork during the week of March 20, 1995.[831]

The NPCA and the California Native Plant Society (CNPS) were among the organizations carefully following this activity, and it had the enthusiastic support of some NPS natural resource officials who were also members of the California organization. Furthermore, Santa Rosa Island, as well as the other Channel Islands, represented a focal point of interest within the CNPS because of the high number of species, subspecies, and distinct varieties that only existed there. This genetic pool provides a significant example of the evolutionary processes associated with island endemism as well as an interesting repository of rare and possibly threatened taxa. Because of the perceived threat that ranching and hunting posed to these native species, the CNPS was deeply concerned with the SUP arrangement on Santa Rosa Island. Contrary to the park administration's preferences, the Plant Society wanted to see the Vail & Vickers cattle and deer removed immediately. Mark Skinner, a botanist with the CNPS,

827 Although Radanovich did not represent Santa Barbara County, he was a personal friend of the Vails and provided additional legislative support for them later.

828 Kate Faulkner comments to Lary Dilsaver, May 20, 2019.

829 Joanna Miller, "Cattle Battle Heats Up on Santa Rosa Island Habitat," *Los Angeles Times*, July 5, 1995.

830 US Fish and Wildlife Service, "Proposed Rule to List Three Plants From the Channel Islands of Southern California as Endangered," and "Proposed Rule for 16 Plant Taxa From the Northern Channel Islands, California," *Federal Register* 60.142 (July 25, 1995): 37987-37993, 37993-38011; and Joanna Miller, "Survival List: 16 Plants Found Only on Channel Islands Nominated as Endangered Species," *Los Angeles Times*, August 3, 1995.

831 Gary Rosenlieb, Bill Jackson, Cece Sellgren, Jim Wolf, Joel Wagner, Jeff Reiner, Kathryn McEachern, and Don Pritchard, Federal Interagency Riparian Assessment and Recommendations for Achieving Water Quality Management Goals, Santa Rosa Island, Channel Islands National Park, Technical Report NPS/NRWRD/NRTR-98/202 (Fort Collins, CO: NPS, Water Resources Division, 1995).

stated publicly that he believed the park could not afford to wait until the expiration of a sequence of SUPs in 2011 to ensure the continued survival of many of these rare plant species. "Impacts from introduced herbivores are overwhelmingly the No. 1 threat to these plants," he explained to a reporter from the *Los Angeles Times*. "The vegetation and rare plants are in really bad shape now, and some of them will undergo additional decline in the next couple of decades, and it's possible some may disappear."[832]

Emily Roberson, also of CNPS, pointed out that grazing privileges were permitted to Vail & Vickers on the condition that grazing and associated ranching activities were not or would not become "incompatible with the administration of the park or with the preservation of the resources therein." Any costs, in terms of environmental damage or added operational and management burdens on the Park Service, were borne by the taxpayer. Roberson and her colleagues believed that monitoring done by the Park Service already provided convincing proof that ranching activities were degrading native vegetation habitat and were therefore incompatible with the preservation of park resources.[833] Vail family members disagreed and publicly argued that there was no long-term monitoring data to support these assertions or the proposed listing. John Woolley, son of Margaret Vail Woolley and nephew of Al and Russ Vail, observed that the most significant ecological pressure on island vegetation had occurred prior to Vail & Vickers' arrival in 1902 when as many as 100,000 sheep were grazed on the island at a given time. Under Vail & Vickers' subsequent ownership, livestock grazing had been managed on a more sustainable basis, and the survival of these rare endemics after nearly a century of continuous cattle ranching was proof of Vail & Vickers' wise stewardship of the land. Woolley believed that the listing of these species was unnecessary, that it suggested a crisis where none existed, and that it would only contribute to the growing national criticism of the Endangered Species Act from private property owners. Like Representative Seastrand, he raised the threat to an environmental law despite the fact that the National Park Service owned the island.[834]

The Cleanup or Abatement Order (1995)

Events came to a head in the midst of this debate when, on May 17, 1995, the California Regional Water Quality Control Board (WQCB) issued a cleanup or abatement order in response to high levels of coliform bacteria and suspended particulates that had been detected in island streams.[835] The order accused the Park Service of violating the water quality control plan for the Central Coast Basin by allowing excess amounts of nonpoint source pollution from grazing animals and road management practices to enter state waters. Threatening fines of up to $5,000 per day, the WQCB ordered the National Park Service to implement temporary mitigations by the beginning of the following year, and to submit a complete report outlining a permanent mitigation plan to its executive office by June 1, 1996. Given the serious implications that any proposed management action might have, especially on the park's relationship with

832 Joanna Miller, "Biologists Working on Plan to Protect Park's Rare Species Conservation," *Los Angeles Times*, July 11, 1994.

833 Emily Roberson, "Cattle Degrading Island Ecosystems," *Los Angeles Times*, September 19, 1995.

834 John J. Woolley, "Endangered Status for Plants Could Harm Island," *Los Angeles Times*, August 9, 1995.

835 Roger W. Briggs to C. Mack Shaver, May 17, 1995, with attached "Cleanup or Abatement Order No. 95-064, CINP Archives, Acc. 304.5, Cat. 6843, Box 7, Folder 258.

Vail & Vickers, the National Park Service appealed in order to gain more time while it completed its initial studies and prepared a management response.[836]

In June 1995, scientists from the Park Service WRD team who had conducted fieldwork on island streams three months earlier, published a technical report summarizing its findings. The scientists studied seven reaches subject to year-round cattle grazing and reported that six were "nonfunctional" based on a set of 17 criteria that evaluated hydrology, vegetation, and stream geomorphological conditions. A seventh reach was rated "functional-at risk." They chose three other reaches as controls because they lay within areas that livestock could not access. Two of these, both in Lobo Canyon, were "properly functioning" but a third was "functional-at risk" largely due to upstream effects. Based on these assessments, the study team recommended a range of management actions short of actually removing cattle from the island. These included stream corridor fencing, islandwide rotational grazing, and targeted seasonal grazing. None of these solutions would completely eliminate the negative environmental effects of cattle ranching, but the authors hoped that one or more might sufficiently mitigate those effects to a tolerable level while still allowing the park to maintain its current stance on Vail & Vickers operations.[837]

Although the WRD report carefully maintained a cooperative tone and proposed solutions that were intended to allow commercial ranching to continue, it became clear that even its mildest recommendations would force the National Park Service to place more restrictions on the cattle operation. The Vails objected to the changes and appealed for more time,[838] but some natural resource managers suspected that the measures the report recommended still would not be sufficient to restore the conditions sought by the cleanup or abatement order. Once the WQCB evaluated conditions on the island, any desire by park and regional administrators to preserve the existing arrangement with the ranchers did not matter. Many people who supported the Vails suspected that members of the park's natural resources staff contacted the WQCB and convinced it to investigate. Al Vail's daughter, Nita Vail, accused Kate Faulkner of orchestrating the investigation.[839] Bill Ehorn suggested that it might have been University of California, Santa Barbara, graduate student John Cloud who became a self-proclaimed public clarion call for the cessation of ranching.[840]

Elden Hughes, a Sierra Club activist, called Shaver during the water quality debate, offering to accept records "over the transom," meaning unofficially and without attribution. Shaver did not agree to Hughes' suggestion of an unofficial partnership. Instead, he tapped into the national public affairs partnership of the National Park Service and the US Fish and Wildlife Service, arranging a flight and press tour on Santa Rosa Island, and asking the local USFWS chief to accompany him. Frank Clifford, the environmental reporter/editor with the *Los Angeles Times* met Shaver at the Camarillo Airfield for the flight to Santa Rosa Island. John Cloud, who worked for the local USFWS office, also showed up instead of the local chief, to Shaver's consternation.

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836 Roger W. Briggs to Tim J. Setnicka, October 17, 1996, CINP Central Files, 2.A.1., "NPCA v. NPS, SRI," Folder 1; A summary of initial studies was provided by Kathryn McEachern, "Summary of proposed endangered plant data collected on Santa Rosa Island by National Biological Service staff and collaborators, 1994-1996," CINP, Central Files, 1.A.2. Mgmt. of Natural Resources, Folder "Plant Life, NPS & USFWS."

837 Gary Rosenlieb et al., Federal Interagency Riparian Assessment, 1995.

838 Al Vail to Roger Briggs, June 16, 1995, CINP Archives, Acc. 304.5, Cat. 06843, Box 7 of 9, Folder 258.

839 Nita Vail, conversation with Timothy Babalis, September 25, 2009.

840 William Ehorn e-mail to Lary Dilsaver, February 27, 2018. John Cloud was a graduate student in the geography department at the University of California, Santa Barbara. He received his doctorate in 2000 and later worked for NOAA.

In an example of how important the national relationship between the public affairs staffs and Channel Islands was, USFWS pulled Cloud off the flight within 10 minutes of Shaver's call to Washington, DC, replacing him with the local USFWS chief. The press tour demonstrated agency transparency, keeping the national press updated on a developing story where no conclusions had been made.[841]

Despite accusations of "leaks," scientific reports, academic articles, and visiting experts had disseminated information about grazing's impact on the island's watercourses and denudation of extensive tracts of land for years. USFWS scientists had studied the conditions and proposed multiple plant species for endangered or threatened status based on their research. Groups such as the Audubon Society and the CNPS focused intensively on their particular resources and included many highly educated specialists among their members. As these major challenges crystallized, more evidence of deficient ecological integrity surfaced. National Biological Survey Ecologist Kathryn McEachern reported the results of monitoring 10 of the proposed endangered plants on Santa Rosa Island from 1994 to 1996. The study collected data on population demography and tracking individuals in selected populations. In the later surveys, most of the plants showed isolated distribution, encirclement by annual grasslands, poor seed production, and browsing damage by deer unless enclosure fences were in place.[842]

A report on the "Status of Resources on Santa Rosa Island" released by the natural resources staff listed 20 ecological and hydrologic problems in bleak terms. Among the findings were:

1. Four of the plant species that occurred on Santa Rosa Island in the recent past can no longer be located.
2. Deer heavily browse virtually all woody plants on the island and there are few young individuals of most woody species. The most critical examples are: island oak, island pine, island ironwood, Santa Rosa Island manzanita, Santa Rosa island wild lilac, and island bush poppy.
3. No regeneration of Santa Rosa Island manzanita (*Arctostaphylos confertiflora*), a single-island endemic that is proposed for listing by USFWS, or of island manzanita (*Arctostaphylos tomentosa* var. *insulicola*), which occurs only on Santa Rosa and Santa Cruz Islands. In addition, deer and elk browse young twigs of all the plants and trample and erode the soil beneath them.
4. Several other unique island chaparral species are also being seriously impacted on Santa Rosa Island by the "trailing" and browsing of deer and elk. These include Santa Rosa Island wild lilac (*Ceanothus arborous* var. *glaber*), another single-island endemic, and Island bush poppy (*Dendromecon harfordii*), an island endemic that occurs on Santa Rosa and Santa Cruz Islands.
5. A recent survey of [Indian paintbrush] *Castilleja mollis*, a candidate species, measured the percent of broken stems to be 51%. The probable host of *C. mollis*, *Haplopappus venetus*,

841 Mack Shaver interviewed by Ann Huston, March 29, 2019. Recording and transcript on file in CINP Archives; Shaver and Bundock communication to Lary Dilsaver, Oct. 28, 2019.

842 Kathryn McEachern, "Summary of proposed endangered plant data collected on Santa Rosa Island by National Biological Survey staff and collaborators, 1994-1996," CINP Central files, 1.A.2. Mgmt. of Natural Resources, Folder "Plant Life, NPS & USFWS."

was observed to be heavily browsed by livestock. Deer and cattle were observed to be the primary animals in the *Castilleja mollis* range.

6. A number of native plants only occur in scattered "refugia," usually cliffs that cannot be easily reached by cattle, deer, or elk. These limited areas represent a great reduction in the natural range of the native species.[843]

At this point the NPCA became more actively involved. In August 1995, Brian Huse, the Pacific Coast regional director of the organization, retained the legal services of Santa Barbara's Environmental Defense Center (EDC), represented by Earthlaw attorney Neil Levine. The NPCA threatened to sue the Park Service for failing to comply with its legislatively mandated mission to protect the natural resources on Santa Rosa Island. This included the recently-proposed plant species as well as the snowy plover. The plaintiffs alleged that the terms of the SUP were incompatible with fundamental park values and would result in the degradation of resources that the National Park Service was required by law to protect. According to local news coverage, "Huse pointed out that Vail & Vickers sold their grazing rights when they sold the island." Levine added that "no written mandate exists that allows grazing to continue," and that therefore, "the park is not legally responsible to Vail & Vickers."[844]

Figure 7-3. Arlington Canyon on the north side of Santa Rosa Island before the end of cattle grazing shows the effect on vegetation.

Source: Photographer and date unknown. CINP Digital Image Files.

843 CINP, "Status of Resources on Santa Rosa Island," n.d., Kate Faulkner files, Folder 2 (being catalogued for CINP Archives).

844 Keith Hamm, "A Conflict Over Endangered Humans and Other Species," *The Independent* (Santa Barbara), September 5, 1996.

The absence of any "written mandate" was the heart of the matter. Both Bill Ehorn and the Vails later stated that grazing was assured during their negotiations. Media outlets supporting the Vail & Vickers position reported that this arrangement, sealed with a handshake, was enough to satisfy the ranchers. However, Ehorn later denied that there was ever a handshake agreement. Latham and Watkins, the attorneys for Al and Russ Vail, certainly realized that the SUP in 1987 did not ensure the ranchers that they would be able to continue ranching for another 25 years as they always had. By rejecting both a RUO and a lease for the entire island, Vail & Vickers garnered the full price for the island at that time and took a risk that the SUP would enable them to continue their ranching and hunting operations. In a 2009 interview, Nita Vail accused the attorneys of failing to inform Al and Russ Vail that the agreement being proposed by Ehorn was not legally supportable.[845] Former NPS solicitor Barbara Goodyear strongly asserted that the Vail & Vickers attorneys were very competent.[846]

The park administration continued to resist the pressure to change the condition of the SUP. Superintendent Tim Setnicka commented to the press, "There is very little evidence that the existing cattle ranch is forcing these [threatened plant] species into oblivion, yet this order has the force of law...The order could force the Park Service to terminate ranching on the island."[847] But, having no choice in the matter, Setnicka agreed to develop a new resource management plan specifically for Santa Rosa Island. Responsibility for writing the new RMP fell to the resource management division, the same biologists who had uncovered the evidence of damage by grazing. Logically, they favored management practices that would end or at least ameliorate that damage. Superintendent Setnicka, whose background was in law enforcement, was discomfited by their recommendations.

In accordance with NEPA criteria, the proposed RMP required the concurrent preparation of an environmental impact statement to assess the potential consequences of any actions that the Park Service might take on the island. The EIS allowed a public review of the alternatives to determine if any significant opposition existed. The process officially started on September 15, 1995, when the National Park Service published a "Notice of Intent" in the *Federal Register*. One month after the notice, Representatives George Radanovich (R-Fresno), Andrea Seastrand (R-Santa Barbara), and Elton Gallegly (R-Simi Valley) wrote to the director of the Park Service urging an extension of the public scoping period on the RMP and requesting that the National Park Service "enter into 'careful and considered coordination, cooperation and consultation' with ranching interests." Clearly Vail & Vickers carried weight with local politicians who were worried that the park would not protect the ranchers' interests.[848]

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845 Nita Vail stated this in conversation with Timothy Babalis, September 25, 2009.

846 Barbara Goodyear e-mail to Lary Dilsaver, November 13, 2019.

847 Kenneth Weiss, "Park Service Moves to Limit Grazing on Santa Rosa," *Los Angeles Times*, October 15, 1995. The "order" Setnicka referred to would come from the US Fish and Wildlife Service executing the Endangered Species Act.

848 Representatives George Radanovich, Andrea Seastrand and Elton Gallegly to Director Roger Kennedy, October 25, 1995, CINP Archives, Acc. 265, Cat. 6494, Box 10, "Santa Rosa Island Lawsuits 1996-98."

The Santa Rosa Island Resource Management Plan (1997)

On May 6, 1996, the National Park Service released a draft of the Santa Rosa Island Resource Management Plan.[849] It made the following proposals:

1. Remove the herd of approximately 600 mule deer within three years.
2. Reduce the elk herd from 1,100 to 450, also within three years.
3. Close one sensitive pasture altogether (the Old Ranch Pasture). This pasture comprised approximately 7% of the island area and provided habitat for a rare and endangered subspecies of the Santa Rosa Island live-forever (*Dudleya blochmaniae insularis*), which at that time was growing on only two acres.
4. Require that more stubble be left in all pastures by the end of the season in order to reduce the erosional action of winter rains.
5. Divide another large pasture in half and require rotation of grazing between the two sides.
6. Install exclusion fences along nine streams to protect riparian habitat.
7. Expand weed abatement programs.

The ranchers blasted the plan for imposing unreasonable economic burdens. Al and Russ Vail both believed they would be driven out of business if these conditions were implemented. They also claimed that the plan represented an unlawful breach of contract because Congress had assured them a right to continue their cattle operation without significant interruption until 2011. This was not true and it ignored the fact that Vail & Vickers did not have a contract because they rejected both a reservation of use and occupancy for the entire island as well as a lease for it.

The environmentalists, on the other hand, thought that the Park Service's proposed management plan was too conciliatory to the ranchers and would not adequately protect the island's natural and archeological resources. In response, the NPCA filed its long-threatened lawsuit against the National Park Service on October 22, 1996. Attorney Neil Levine of the Environmental Defense Center was the lead attorney. The complaint included 13 causes of action, virtually all of which challenged the park's issuance of the 1993 SUP. For example, plaintiff NPCA alleged that the Park Service, by allowing ranching to continue under the existing SUP, violated NEPA, the Clean Water Act, the Coastal Zone Management Act, and the National Historic Preservation Act on the basis that commercial cattle ranching threatened resources that are specifically protected under those laws.[850] Much of NPCA's argument was summed up in its further accusation that the Park Service was in violation of its own Organic Act, which requires it "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." By failing to protect the

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849 DOI, Draft Resources Management Plan and Environmental Impact Statement for Improvement of Water Quality and Conservation of Rare Species and Their Habitats on Santa Rosa Island (Ventura, CA: CINP, 1996); Kenneth R. Weiss, "Plan Would Limit Deer, Grazing on Island," *Los Angeles Times*, May 7, 1996.

850 National Parks and Conservation Association (NPCA) vs. Roger Kennedy, Director of the National Park Service, et al., Cv 96-7412 WJR (RNBx) (C.D. Cal), Complaint for Declaratory and Injunctive Relief, April 20, 1995 (E.1.a); Mack Reed, "Suit Alleges Damage to Santa Rosa Island," *Los Angeles Times*, October 23, 1996. The NPCA also sued the Fish and Wildlife Service for failing to list threatened rare plant species. As of 1995, the agency had only made a proposal to list.

island's natural resources and by restricting public access in the interest of ranching, the Park Service was failing to manage Santa Rosa Island as a national park. NPCA formally stated:

> *Since the public purchased SRI [Santa Rosa Island] in 1986, NPS has maintained incompatible uses of the National Park at the public's expense while failing to comply with applicable laws. Meanwhile, the permitted ranching and commercial hunting activities have continued and/or accelerated the destruction of SRI's native ecosystem and cultural resources, and have significantly curtailed public access to the National Park.*[851]

The NPCA asserted that this was not only a violation of the fundamental purpose of the Park Service, but that it directly contradicted Channel Islands National Park's own management policies. The conservation organization claimed that the park's general management plan had established a natural resource management goal of "lessening man's historic impact on the islands ..." and specifically directed the NPS to "discontinue ranching and other commercial operations" upon acquisition of Santa Rosa Island. The environmental organization recalled that during the year leading up to the first SUP Superintendent Ehorn and Congressman Lagomarsino had supported Vail & Vickers' cattle operation for a 5- to 10-year phaseout period. However, these time conditions were never included in the SUP signed on December 29, 1987. Instead, the National Park Service had allowed ranching to continue as before with no indication that it would conduct its duty henceforth.[852]

Of course, the conflicting claims of the scientists, park managers, and the ranchers drew intense media attention. Local people, allies of the parties involved, organizations of various constituencies, and even national newspapers argued, questioned authorities' qualifications and hurled insults. Two virulent contingents volubly challenged each other—environmentalists and scientists seeking an end to nonnative animals versus ranching allies, historic preservation groups like the Santa Cruz Island Foundation, and a large number of locals who sympathized with the Vails and echoed their claim that the National Park Service had broken its word. A few people wrote letters to the press calling for quiet negotiations and dignified dialogue but they did not have much success.

On April 17, 1997, the National Park Service published its Final RMP and EIS for Santa Rosa Island. Representative George Radanovich, the Vails' political ally from distant Fresno County, introduced H.R. 1696 on May 21, 1997, "To honor agreements reached in the acquisition of Santa Rosa Island, California, by the National Park Service." This bill stated that, "notwithstanding any other provision of law, the National Park Service shall reissue Special Use Permit Number WRO-8120-2600-001 with an expiration date of 2011."[853] Representative Walter Capps (D-Santa Barbara), who actually represented Santa Rosa Island, opposed the bill and wrote to the House Resources Subcommittee on National Parks and Public Lands

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851 NPCA vs. Roger Kennedy, Cv 96-7412 WJR (RNBx) (C.D. Cal), April 20, 1995.

852 Ibid., Robert J. Lagomarsino, "Notes of presentation at February 10, 1987 media event announcing the acquisition of Santa Rosa Island by the NPS." Robert J. Lagomarsino Collection: Federal Collection, 1974-1992. Collection Number: 1/92. Broome Library, California State University Channel Islands.

853 H.R. 1696, 1997.

recommending that they take no action on it. Capps reminded the subcommittee that Vail &Vickers had refused an RUO for the cattle operation at the time of the initial sale in 1986.[854]

In a separate letter to Secretary of the Interior Bruce Babbitt, Capps urged that all parties come together to settle the dispute amicably.[855] But before any such reconciliation could be achieved, the attorneys for Vail & Vickers filed their own lawsuit against the Park Service in the US Court for the Central District in Los Angeles.[856] The case was assigned to Judge William Rea. The lawsuit included a request for a preliminary injunction that would prevent the National Park Service from rescinding its 1993 special use permit prior to its scheduled expiration at the end of 1997. Specifically, the attorneys for Vail & Vickers cited four reasons why the injunction should be granted: (1) that weeds kept in check by grazing animals were a greater threat to the native plant species that the National Park Service and NPCA "purportedly seek to protect" that the cattle, deer, and elk were; (2) that without the injunction, Vail & Vickers would suffer the "irreparable injury of losing its ranching business"; (3) that the plaintiffs would also "be harmed by the intangible loss of a cultural livelihood"; and (4) the "balance of hardships" would favor the plaintiffs because the defendants would not be harmed to a degree that would "compel a contrary conclusion."[857]

On August 11, Judge William Rea issued a tentative ruling.[858] It included the following statements:

> [1] Even if Vail and Vickers had adopted one of the two methods [RUO and leaseback] detailed by CINPA [Channel Islands National Park Act] whereby they could retain the right to continue hunting and ranching on the Island—which Vail and Vickers did not do—CINPA makes explicitly clear that such a right would be terminable. Thus, the express language of CINPA—the statute under which the United States purchased the Island—is at odds with the Vail and Vickers argument that they were guaranteed the right to continue hunting and ranching no matter what.
>
> [2] Of critical importance for this motion—the deeds and offers [of the sale to NPS] are absolutely silent as to Vail and Vickers' right to continue grazing and hunting on the Island. Accordingly, there is no indication at all in Vail and Vickers' offers or in the subsequent deeds that Vail and Vickers was to retain the right to hunt and ranch on the Island until the year 2011.

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854 Melinda Burns, "Range War," *Santa Barbara News-Press*, n.d. Capps had recently replaced Republican Representative Andrea Seastrand in the House.

855 Walter Capps to Bruce Babbitt, May 21, 1997, CINP Archives, Acc. 265, Cat. 6494, Box 10, "Santa Rosa Island Lawsuits 1996-98."

856 Alexander Lennox Vail et al. v. Galvin et al., Cv. 97-4098 WJR (RNBx) C. D. Cal., June 30, 1997.

857 "Vail & Vickers' Reply to Oppositions to Motion for Preliminary Injunction," Consolidated Case No. 96-7412, July 29, 1997, CINP Central files, 2.A.1., "Vail & Vickers Civil Litigation," Folder 1.

858 NPS Solicitor Barbara Goodyear explained, "At the time, judges in the Central District sometimes issued tentative rulings. These were not official, final decisions. Instead, they were intended to give the parties an understanding of the likely ruling that the judge would issue if the parties didn't settle the case. A strongly worded tentative ruling that showed that one party was very likely to prevail on the motion often prompted a recalcitrant party to agree to settlement talks." Barbara Goodyear email to Lary Dilsaver, November 13, 2019.

> [3] . . .a good deal of the legislative history for the CINPA indicates that even Congressional advocates for Vail and Vickers were not acting under the impression that the ranching and hunting operations would continue until the year 2011.
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> [4] Accordingly, plaintiffs really received the equivalent of over $7 million in exchange for not reserving the right to continue ranching and hunting on the Island. Thus, plaintiffs' claim that they stand to lose $4.4 million [under NPS restrictions] does not amount to any sort of true money loss.
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> [5] . . .if Vail and Vickers are truly concerned about losing the ability to maintain "cultural livelihood" that their families have practiced for the past century, then there is nothing that would prevent them from continuing to maintain such a lifestyle. Continuing their past ways may cost plaintiffs some money, but there is absolutely no impediment to the continuance of such a lifestyle.
>
> [6] In such a situation, where the harm to the plaintiffs will not be that substantial, and where the harm to the public interest may be very significant, the Court does not feel that it can conclude that the balance of hardships tips strongly in plaintiffs' favor.[859]

This was a tremendous blow to Vail & Vickers because it signaled that the Vails would likely lose their case, at which point the park could begin active measures and restrictions that the company held to be economically injurious. Furthermore, if they proceeded with the litigation, a final ruling from the court would likely validate the NPCA's allegations in their separate suit against the National Park Service, that, irrespective of scientific considerations, ranching and commercial hunting were legally inconsistent with the management of Channel Islands National Park.

A little more than a week before Judge Rea's decision, the USFWS published its final notice giving legal protection to 13 plant species occurring within the Channel Islands, 10 of which grew on Santa Rosa Island.[860] Formal listing under the Endangered Species Act raised the stakes in this controversy significantly by legally obligating the federal government to take active steps to mitigate known threats to the listed species. Since ranching had been identified as the principal source of impacts negatively affecting the viability of these plants, section 7(a)(2) of the ESA now required the Park Service to implement appropriate modifications to ranching practices to protect the species. These developments promised a decisive change from prior ways of doing business on Santa Rosa Island, when ranching values had taken priority in almost all resource decisions. Previously, the economics of the cattle industry determined how the island was managed. Now, the protection of native plant species and water quality were the principal criteria and private agricultural economics mattered far less or not at all.

This shift in the character of the relationship with Vail & Vickers understandably created a deep rift between the ranchers and the park and also intensified the ill feelings that existed between Superintendent Tim Setnicka and many of the staff in the natural resource division. Even the press began to notice, and the *Los Angeles Times* quoted Chief of Resources Kate Faulkner criticizing the agreement with the ranchers while Superintendent Setnicka, in the same article,

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859 Judge Rea Tentative Ruling, Alexander Lennox Vail et al. v. Denny Galvin et al., August 11, 1997, CINP Archives, Cat. 40739, Series 6 and 7, Box 4.

860 DOI, Fish and Wildlife Service, "Final Rule for 13 Plant Taxa From the Northern Channel Islands, California," *Federal Register* 62.147, July 31, 1997, 40954-40974. This rule became effective on September 2, 1997.

was quoted defending it. The controversy also drove a wedge between the park and a number of Republican politicians. Former Congressman Robert Lagomarsino, conveniently ignoring his 1987 declaration of a 5- to 10-year phaseout, commented with evident frustration:

> *My understanding was that [the Vails] would be able to stay there for at least 25 years to continue ranching. I am very sympathetic to the Vails. If I'd known how this would turn out, I probably would not have included them in the national park.*[861]

Although Lagomarsino remained a strong supporter of Channel Islands National Park and the National Park Service generally, others were more lastingly embittered, and the controversy would have negative repercussions for future Park Service initiatives in Southern California.[862] Former Superintendent Shaver concluded, "In the end, the SRI [Santa Rosa Island] lawsuit made the right decision but [it] was the wrong vehicle."[863]

The Settlement Agreement (1998)

By the end of 1997, Judge Rea's tentative ruling had been taken to heart and a mediated settlement was underway. A much-weakened Vail & Vickers sought to salvage what they could from their permit and it was clear that financially it would be the hunting operation. The National Park Service, internally divided and under censorious attack by much of the media and public, wanted to calm the crisis. In December, an agreement was reached among the three principal litigants—the Vail & Vickers Company, the National Parks and Conservation Association, and the National Park Service. The USFWS and the California Regional Water Quality Control Board also were involved in the negotiations that resulted in a formal Settlement Agreement (SA). Announced on January 30, 1998, this agreement stipulated that ranching cease altogether on Santa Rosa Island, with all cattle to be removed by December 31 of that year. A nominal herd of 12 cattle would be allowed to remain in the Lobo Canyon pasture, presumably for interpretation purposes. The agreement also stipulated that populations of exotic cervids (deer and elk) be closely regulated during an Adaptive Management Period that would extend through 2011. This stipulation could have been rejected by the National Park Service and NPCA but was allowed in an effort to conclude an amicable Settlement Agreement. Gone was the 1997 RMP's recommendation of three years to the end of their presence on the island. Although there were many compromises, the agreement was essentially a victory for environmentalists. Brian Huse of the NPCA enthused:

> *This is dramatic, and I expect no less dramatic a recovery for the resources of Santa Rosa Island. This is the first time in a century that native habitat will have a chance to exist in its own right.*[864]

In order to determine appropriate regulatory criteria, a three-member panel of reputable scientists would be appointed—one member selected by Vail & Vickers, another by the National Park Service, and a third to be selected by those two members. This panel would identify a small number of indicator plant species—canaries in the coal mine—that could be monitored to

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861 Hilary MacGregor, "Island Squeeze," *Los Angeles Times*, May 25, 1997.

862 Note as an example the Gaviota Coast Special Resource Study which sought a national seashore on the mainland coast north of the Channel Islands.

863 Communication from Charles "Mack" Shaver and Holly Bundock, October 28, 2019.

864 Hilary MacGregor, "Pact to Boost Access to Santa Rosa Island," *Los Angeles Times*, January 31, 1998.

determine the potential effects of cervid grazing. The assumption was that a measurably negative impact on these species would indicate damage to the broader ecosystem and suggest that other species and vegetational assemblages were suffering as well. Management practices could then be adapted in response to these findings. The panel would establish standards to determine biologically meaningful changes to these indicator species, develop monitoring protocols, and provide annual reports to the legally interested parties.

The Settlement Agreement required the science panel to submit two reports by December 31, 1998; one that identified the selected indicator species and described their baseline population numbers, distribution, and their relative condition, and the other that established standards and protocols for monitoring these species. Exactly one year after that, the panel had to submit a third report describing any significant changes in the status of the indicator species. Copies would be provided to the other interested parties. On the basis of these reports, panel members would then submit individual recommendations to the superintendent and the NPS regional director concerning possible reductions in cervid populations. Any final decisions to this effect would be made by these officials with an explanation of any deviation from the individual recommendations and issued in writing, so that Vail & Vickers could protest, if they had any objections, and request further mediation. The National Park Service would also provide the results of this monitoring data to the USFWS to allow that agency to determine whether the criteria of section 4 of the Endangered Species Act were being met.[865] Barring any modifications required by the monitoring results, cervid population levels would be reduced according to an incremental schedule that was outlined in the Settlement Agreement. By 2011, all of the animals that could reasonably be culled without incurring "unusual cost"—for example, without requiring the use of professional hunters or specialized equipment such as helicopters—should be gone. Any remaining animals would subsequently be eliminated, but they would not be the responsibility of Vail & Vickers. The Settlement Agreement also stipulated seasonal closures of designated beach areas to protect threatened marine mammals and snowy plovers.[866]

The original appointees to the science panel were Michael Barbour, John Menke, and Ed Schreiner.[867] They identified two endemic species that they believed should be monitored as indicators of cervid impact—Santa Rosa Island manzanita (*Arctostaphylos confertiflora*) and a variety of Indian paintbrush (*Castilleja mollis*). Select populations of these species would be fenced off in small exclosures and compared with nearby unprotected populations (see plates 4a and 4b). The panel described monitoring protocols and criteria for measuring the relative impact on protected versus unprotected populations. The scientists' initial report stated: "The standard for recovery will be that there is no statistically significant difference in the browsing

865 Section 4 of the Endangered Species Act requires the identification and protection of critical habitat needed to recover a listed species. If monitoring revealed that cervids continued to degrade critical habitat for any of the endangered plants or animals on Santa Rosa Island, even if they did not directly affect those species, the Fish and Wildlife Service would be obligated to insist on further management action to reduce or eliminate the impact of the exotic cervids.

866 "Settlement Agreement," Draft Press Release, December 31, 1997, CINP Archives, Acc. 265, Cat. 6494, Box 10, "Santa Rosa Island Lawsuits 1996-98"; Environmental Defense Center, "News Release," January 30, 1998, Ibid.

867 Dr. Michael Barbour was a botanist on the faculty in the Department of Plant Sciences at University of California, Davis; Dr. John W Menke was a range ecologist and faculty member in the Department of Agronomy and Range Science also at UC Davis; and Ed Schreiner was a research biologist with the USGS.

level on *Arctostaphylos confertiflora* inside and outside the individual exclosures."[868] In other words, when the plants outside the protective exclosures showed no measurable diminishment in health, population, or extent relative to those inside the exclosures, resource managers could assume that cervid impacts were negligible and they could allow existing numbers to persist without further reduction until the agreed-upon phase-out during the final years.

Although the purpose of this science panel's preliminary report was to establish baseline conditions and determine appropriate monitoring protocols, the scientists already noted high levels of herbivore impact in certain areas, especially around Carrington Point. These observations led to an unusual recommendation—that future culling of cervids should be concentrated in these areas. This proposal appeared to contradict the purpose of monitoring the designated species as indicators of overall island conditions, as it would shift management toward a strategy that addressed only isolated populations rather than the entire island ecosystem. Another apparent problem in the design of the monitoring protocol was the selection of the indicator species themselves. Both *A. confertiflora* and *C. mollis* are rare island endemics and occur only within specific habitat types. They were chosen primarily because of their individual species value, prompted by their recent listing under the endangered species act, whereas their value as indicators of broader ecological conditions, though explicitly stated, was a secondary concern. Several interested parties claimed that this was a weakness in the research design during the public comment period on the proposed RMP. In response to queries why other indicators were not chosen, the park responded with the following explanation:

> *Arctostaphylos and Castilleja were chosen as indicator species because they are two of the most heavily impacted species occurring on Santa Rosa Island, because those impacts have been unambiguously tied to deer and elk, [and] because they occur in habitats which are generally impacted. For example, Arctostaphylos occurs primarily in the chaparral area near Black Mountain, which is the habitat preferred by deer, and most impacted by deer. Currently, Arctostaphylos individuals are heavily browsed with no apparent reproduction or recruitment. Improvement in the condition of Arctostaphylos will only occur if deer are no longer impacting the chaparral habitat as a whole. Since deer prefer chaparral habitat, relatively low deer numbers will be required to attain ecological standards for Arctostaphylos. Therefore, reduction of deer to population levels sufficiently low to allow improvements to chaparral habitat will also improve other woody plant communities frequented by deer.*[869]

However, the park also admitted that it would be excessively costly to monitor additional species, implying that the criteria for selecting these indicators had a financial constraint as well as a scientific goal.

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868 Michael Barbour, John Menke, and Ed Schreiner, "Progress Report on the Monitoring and Status of Two Indicator Plant Species, *Arctostaphylos confertiflora* and *Castilleja mollis*, and their Habitats on Santa Rosa Islands, Channel Islands National Park," December 30, 1998, CINP Digital files, file:///D:/Documents/1b.%20CHIS%20Main%20Files/Santa%20Rosa/1998%20Panel%20Report. PDF

869 DOI, Resources Management Plan for Improvement of Water Quality and Conservation of Rare Species and Their Habitats on Santa Rosa Island: Final Supplement to the Final Environmental Impact Statement (Ventura, CA: NPS, CINP, 1998). These questions were raised most directly by the California Native Plant Society and by John Cloud. The latter also criticized the proposed monitoring protocol because it would not measure recovery, which he believed the NPS was required to implement as a matter of policy.

Despite these problems, the park incorporated the recommendations of the science panel into an amendment to the Final Resource Management Plan / Environmental Impact Statement. The preferred alternative called for adopting the terms of the Settlement Agreement, with the removal of cattle by the end of the year. It also called for the phased reduction of deer and elk beginning in 2000 with their numbers set by the National Park Service, based on input from the panel, and concluding with full elimination at the end of 2011. The hunting operation would continue to be directed by Vail & Vickers, though in principle its management would have to be vetted by NPS administrators in order to ensure the least adverse effect on park operations. How this vetting would occur was left ambiguous, and one public commentator's suspicion that it would not occur nor have any meaningful effect later proved accurate.[870]

Many other concerns relating to the management of the commercial hunt and the cervid populations on which it depended arose during the review process. Jayne Belnap, a research ecologist from the USGS, wondered who would pay for the continuing management of the deer and elk. She noted that the cervids remained on the island because they were necessary to sustain the commercial hunting operation and benefitted only Vail & Vickers and their clients but not the public, represented by the National Park Service. The National Park Service explained that the cost of maintaining these herds would be shared between itself and the Vails. Belnap charged that this arrangement was unfair because the burden was subsidized by the public while the benefit was enjoyed entirely by the private owners and their clients.[871]

Emily Roberson, senior land management analyst for the California Native Plant Society, expressed concern about the ambiguity relating to management of the commercial hunt, and requested that more transparent mechanisms for public evaluation be established. Her suggestions went unheeded. Roberson also responded to the ongoing discussion of the potential weed problem. Many supporters of ranching had pointed to the explosion of fennel (*Foeniculum vulgare*) on Santa Cruz Island following the removal of exotic sheep as an example of at least one beneficial effect of livestock—grazing animals kept the weeds down and prevented them from proliferating. These critics of the Settlement Agreement warned that the precipitous removal of cattle, and later the deer and elk, might have unexpected and undesirable consequences that could negatively impact endemic plant species. Roberson discounted this scenario, pointing out that exotic livestock also contributed to the problem of weeds by distributing seeds and creating ruderal conditions favorable to their recruitment.[872] In the end, most of these criticisms she tried to rebut proved to be little more than rearguard actions among supporters of ranching who were reluctant to see the tradition come to an end. The arguments themselves proved, for the most part, irrelevant. The sentiment that underlay them was far more significant as an indication of the cultural values that a substantial portion of the local population felt committed to defend.

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870 John Cloud in Ibid.

871 Jayne Belnap in Ibid.

872 Emily Roberson, "Weeds Threaten Santa Rosa Island," *Los Angeles Times*, August 30, 1996; Ruderal is defined as a badly disturbed condition or a "wasteland."

THE END OF RANCHING ON SANTA ROSA ISLAND

The park's preferred alternative in the RMP and EIS for Santa Rosa Island implemented the terms of the Settlement Agreement. Although a bitter Vail & Vickers Company had formally signed the Settlement Agreement, it publicly claimed they did not agree with the terms of the resolution but only wanted to end the controversy. Vail & Vickers continued to insist that theirs was a legacy of good stewardship and that the preferred alternative and the Settlement Agreement itself went beyond what was necessary to protect the island environment. In their opinion, those steps exaggerated the problems associated with the deer, elk, and cattle. Vail & Vickers continued to cite the help of several qualified scientists familiar with Santa Rosa Island whom they had engaged as witnesses in their defense during the lawsuit. For the most part, these experts believed that the ranchers' operations did not continue to threaten the island's rare plant species, which had suffered the greatest damage during the sheep grazing days prior to the arrival of Vail & Vickers. The consensus among them was that conditions on the island had remained stable or even improved under Vail & Vickers' subsequent management.

University of California, Davis, range ecologist Dr. John Menke, who Vail & Vickers selected for the three-member science panel formed under the terms of the Settlement Agreement, observed that "much of the island is in outstanding condition today," and concluded, according to the statement prepared by Vail & Vickers, that "at the present time, the native plant habitats are not threatened by grazing." The Vails insisted that Menke and other experts felt that there was little cause for immediate concern and suggested that, at the very least, cattle ranching could continue until 2011 without threat of further harm to the island's natural environment or its rare plant species.[873]

The Vail family had always insisted on its legacy of stewardship and resented the insinuation that its land management practices had damaged the island. Al and Russ Vail's sister, Margaret Vail Woolley, described the family's attitude toward Santa Rosa Island:

> *A principle of all activities was to conserve and protect the land. Be sure the pastures are not over-grazed. Don't take cattle to the island from the mainland until there has been some rain so there will be plenty of grass for them and the land won't be damaged. Move the cattle around the island so particular areas won't be damaged. Control the population of pigs, elk and deer so they won't damage the pastures. In the event of a severe drought, remove enough cattle from the island to preserve the range. These steps were taken—not because we loved the land, although, in truth, we probably did—but for sound financial reasons. Any land owner who permits his land to be eroded and overgrazed is eventually not able to fatten so many animals.*[874]

Al Vail's daughter, Nita Vail, maintained that Vail & Vickers' reputation for responsible rangeland management was well-deserved. She served as chief executive officer of the California Rangeland Trust beginning in 2001, an organization that works to preserve rangeland and promote sustainable ranching practices throughout the state. Though Nita Vail conceded that her father's management may have been deficient on a number of counts by today's standards,

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873 This view was implicit in all of the statements.

874 Margaret Vail Woolley, sworn statement dated April 29, 1997, CINP Central Files, SRI Binder No. 3, E.1.j.

she believes he applied the most progressive principles of rangeland management that he and his generation were aware of at the time.[875]

The Park Service initially recognized and even praised Vail & Vickers' legacy of responsible land stewardship and business practice. This is evident in the testimonials given by NPS Director William Whalen and park Superintendent William Ehorn during the hearings on the park's enabling legislation in 1980. The criticism that began in the 1980s and intensified in 1995 did not reflect any significant changes in Vail & Vickers' management practices so much as the great difference between the company's practices and the NPS's purposes as owner. Congress had insisted that the island be managed to protect natural resources and mandated that they be inventoried and monitored to assure compliance. The damage identified by those scientific investigations at Channel Islands posed existential threats to endangered and threatened species. The condition of island resources from the viewpoint of NPS natural resource managers differed from that of rangeland managers. While Vail & Vickers were recognized as responsible rangeland managers and worthy cattlemen, they no longer owned the island and were not managing the island for the same ends as those valued by park natural resource managers, botanists with the US Fish and Wildlife Service or, ultimately, Judge Rea.

The 1995 suit brought by the NPCA against the Park Service argued that the Vail & Vickers' initial SUP perpetuated terms that were appropriate for a commercial livestock operation but not for a national park, and the plaintiff accused the National Park Service of violating its own Organic Act for permitting these uses on Santa Rosa Island.[876] Once the Vails realized what sort of compromises they would be required to make to bring their cattle operation into compliance with park policies as well as the Clean Water Act, they knew it would be economically impossible to continue. Cattle ranching was already a marginal business and barely cleared a profit in the best years. Vail & Vickers agreed to remove their cattle as a condition of the Settlement Agreement, because they understood that there was little to gain by fighting, at least economically, and even less hope of winning if the case went to court. Hunting was another matter. In contrast to cattle ranching, this was a lucrative business, and Vail & Vickers fought to maintain the deer and elk on Santa Rosa Island because they believed the commercial hunting operation would remain profitable for the foreseeable future.

N. R. Vail, Al and Russ Vail's father, had introduced elk to the island in 1914 to provide island residents with a local supply of fresh meat and the occasional visiting sportsman with an opportunity to hunt.[877] Ironically, the National Park Service augmented the herd when Yellowstone National Park gave him 12 of the animals in 1930. These became the nucleus of the island herd. Mule deer were introduced for similar reasons in 1929 from the Kaibab National Forest in Arizona.[878] The commercial hunting operation had a more recent origin, dating to 1978 when Vail & Vickers began contracting with Wayne Long, owner and founder of Multiple

875 Nita Vail interview, September 25, 2009.

876 "The uses permitted on SRI [Santa Rosa Island] by NPS do not conform with the fundamental purposes of the Organic Act or the CINPA." Judge Rea Ruling, August 11, 1997.

877 Note that there may have been sporadic earlier introductions, but 1914 marks the most reliable date for the origins of the present herd. Livingston, "Island Legacies," 2016, 297-99.

878 Ibid., 302-304.

Use Management. By the time of the Settlement Agreement, hunters were paying Multiple Use Management up to $7,500 for a four-day elk hunt, or $3,500 for a deer hunt.[879]

The Last Roundup (1998)

In October 1998, the Vails prepared to bring in their cattle for the last time. The vaqueros' horses had been driven in from pasture the night before and were waiting in the barn the morning the roundup was scheduled to begin. The men were up at 4:00 a.m. as usual, gathering for breakfast at the long metal counter in the bunkhouse before they saddled their horses and set out at a trot up the Smith Highway along the north side of the island. The only cattle left on Santa Rosa Island were the "cripples and crazies," as ranch foreman Bill Wallace described them. Within a few weeks, they had all been gathered and corralled at the main ranch on Bechers Bay. Here they were weighed in groups of ten, then driven down the long wooden pier and loaded onto the *Vaquero II*, the Vail & Vickers' specially designed livestock boat, which took them across the channel to Port Hueneme. As Wallace's wife Meredith watched the vessel leave, she commented to a reporter who was covering the event, "It makes me sad because this is the last time. It shouldn't have had to happen like this. This was a terrific ranch." By the end of the month, all of the cattle were gone, and nearly a century of ranching tradition ended.[880]

Giving up the cattle ranch did not represent a serious loss for the Vail family from an economic point of view, but as Nita Vail and others later insisted, it meant much more on a personal and emotional level. Many of the vaqueros who worked on the island for Vail & Vickers had been with the company for years and had come to consider the island their home and the Vails as family. E. K. Smith was the same age as Al and Russ Vail and had grown up with them on the island. His father, C. W. Smith, had worked for the Vails on their Empire Ranch in Arizona and had been the ranch foreman for their father on the island. E. K's son, Ed Smith, also spent much of his youth visiting the island. [881] He and Lulis, the daughter of Diego Cuevas, who came to Santa Rosa Island in 1946 and raised his family on the island, found ways to return by later working for the park. But the termination of cattle ranching, caused the remaining employees to leave with powerful feelings of regret. Long-time ranch foreman Bill Wallace promised never to come back to Santa Rosa Island after the ranch was shut down. Two years after the final roundup, in 2000, Al Vail died of a heart attack. He was in his 70s by that time. The loss of the cattle ranch had done nothing to improve his health, and some of his family believed that sorrow may have hastened the end. They wish he had been able to keep the ranch going for as long as he wanted. They stated that it would not have been much longer.[882]

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879 Terry Lee Anderson and Donald Leal, *Enviro-Capitalists: Doing Good While Doing Well* (Lanham, MD: Rowman & Littlefield, 1997) 73-75; http://www.mumwildlife.com/santarosa.php Accessed September 17, 2009.

880 Bill Ehorn, transcript of recorded interview, December 6, 2001, CINP Archives, Cat. 35833; Andrew Rice, "The Last Roundup," *Los Angeles Times*, October 11, 1998.

881 After World War II, E. K. and his family, including son Ed, spent holidays and vacations on the island. During those periods Ed socialized with and assisted maintenance workers, in the process learning the crafts he later brought to the island as an employee. Ed Smith began working for Channel Islands National Park as a seasonal while he was attending college in the late 1980s and became a full-time employee of the Maintenance Division in 1992.

882 Gretel Ehrlich and Nita Vail, *Cowboy Island: Farewell to a Ranching Legacy* (Santa Barbara, CA: Santa Cruz Island Foundation, 2000); Will Woolley, Nita Vail, and Nancy Crawford-Hall, "Cowboy Island: Santa Rosa Island, Santa Barbara County, California," in *Some California Ranches: Their Stories and Their Brands* (California Cattlewomen, 2010); Holly Wolcott, "Longtime Santa Rosa Island Rancher Dies at 78," *Los Angeles Times*, January 8, 2000; personal communications with Mark Senning, Lulis Cuevas, Ed Smith, and Nita Vail, 2009, notes in the CINP Archives, Administrative History files.

Circumstances surrounding the establishment of the park in 1980 have left some of the surviving principals rueful. Bill Ehorn claims that the park legislation was dependent on Vail & Vickers' cooperation. "I am convinced," he recalled several years later, "that had Congress not assured the Vails that the ranch would continue and had NPS not agreed that the park and the ranch could coexist, there would not be a park today that includes Santa Rosa Island."[883] He believes this to be supported by the solicitude shown the Vails by many of the congressmen during the hearings on the proposed park bill. After first trying to get the island removed from the park bill, the family relented after the legislation was revised to ensure that Santa Rosa Island be given priority over other private land acquisitions, thus enabling Vail & Vickers to be compensated as quickly as possible, and second, that cattle ranching be allowed to continue provided these activities remained compatible with park standards.

Ehorn remembers that Senator Dale Bumpers, Chairman of the Senate Subcommittee on Parks, Recreation, and Renewable Resources, wrote to then NPS Director Bill Whalen asking whether livestock grazing would be considered a compatible use in the national park, and Whalen assured him that yes, for the period of a Reservation of Use and Occupancy, it would be.[884] Bur Low, from the NPS director's office, included in his letter to Senator Bumpers, read into the *Congressional Record* for February 18, 1980, the following: "Grazing operations are specifically cited in the bill [S. 1104] as a compatible use." This, in turn, reflects the wording of Senate Report 96-484, "the Secretary may in his discretion and if so requested by the former owner, enter into a lease agreement with that former owner for the use of any or all of such property not subject to a reservation, in a manner wholly compatible with the administration of the park and the preservation of its resources." Here lies the disagreement between former park employees. Kate Faulkner has shown that no such legal, written promise of a 25-year duration for ranching was ever given when Vail & Vickers refused both the RUO and lease options.[885] Nothing in the congressional deliberations or sales contract indicated that a five-year special use permit could be used and renewed for 25 years.

The ugly controversy between the Vails and their rangeland experts on one side and environmentalists and botanists on the other side led to the settlement agreement whereby Vail & Vickers ended cattle ranching and stuck with their more profitable hunting concession. Removing cattle helped the protection of natural resources, but this accomplishment had negative as well as positive consequences. On the positive side, the native habitat showed a clear improvement. This was especially evident in riparian ecosystems that had been directly impacted by cattle grazing. In 2004, an interdisciplinary team of scientists returned to each of the 10 stream sites that had been assessed in 1995 in response to the Regional Water Quality Control Board's Cleanup or Abatement Order. Using the same criteria for evaluation as those the NPS Water Resources Division established earlier, the team found that all six of the assessment sites previously classified as "nonfunctional" were now in a "proper functional condition." The scientists concluded that these riparian habitats would progress steadily toward a healthier

883 Ehorn to Regional Director Stanley Albright, January 25, 1994.

884 Kate Faulkner comments to Lary Dilsaver April 29, 2019; Ehorn to Regional Director Stanley Albright, January 25, 1994.

885 Kate Roney Faulkner, "Bringing Santa Rosa Island into Channel Islands National Park: the written documents 1979–1987," *Western North American Naturalist* 78(4) 2018, 930–941.

natural condition with little or no further intervention from resource managers now that cattle grazing had been eliminated (see plate 7).[886]

Exotic deer and elk continued to have an impact on island streams, primarily because they browsed the younger vegetation and inhibited the reproduction and spread of woody species in riparian corridors. Researchers also documented that grazing by these animals diminished vegetative cover on slopes above stream channels, contributing to erosion and excessive water turbidity after storm events. But these impacts were not as severe as the effects of year-round cattle grazing. In most instances, the improvement was clearly visible. Streams that had once flowed over barren, heavily sedimented beds between deeply eroded banks, now meandered in well-defined channels through dense vegetation. The results confirmed the conclusions of environmentalists and resource managers concerning the negative effects of cattle ranching on the island's natural environment, and to justify the legal actions that had been taken in support of their removal.[887]

But there were negative results as well. Among the allegations made in the NPCA's suit against the Park Service was that ranching threatened Santa Rosa Island's cultural resources. What NPCA had in mind were archeological deposits associated with its prehistoric Island Chumash inhabitants. But the organization did not acknowledge that ranching was itself an important cultural resource representing more than 150 years of heritage on the island. Vail & Vickers had been on Santa Rosa Island continuously since 1902. They ran several successful and historically significant cattle ranching operations in the American West, with ties throughout Southern California and Arizona. The isolation of island life had preserved many aspects of 19th century ranching culture relatively intact, including the almost complete reliance on horses rather than motorized vehicles and the craftsmanship of the leather riding tack made by the Mexican cowboys.

Bill Ehorn, when he was still superintendent, wanted to maintain this cultural legacy even after active cattle ranching had been phased out. He proposed preserving the physical infrastructure of the ranch and managing a living history program where visitors could learn about life on the old ranch and even witness some of the traditional crafts being manufactured, as Ehorn explained in a 2001 interview:

> *...when people came to the island, they'd get off the boat onto the pier and they'd come up to that historic ranch scene, and you'd have people like Jesús Bracamontes or José or one of the [other] Mexican vaqueros. They'd be making rawhide riatas or rawhide reins which they did out here. They'd take an elk hide and they would stretch it and dry it, and they'd take a knife and at the center of the hide would go around in circles and cut this long string. The string could be 100 yards long when they finished it. Then they'd take it out and tie one end of it on a fence post, and then weave it out of the fence post for the whole length of it; let it dry that way and then come back and scrape the hair off of it, and then take the towel from the animal and rub the rawhide with the towel, and then they would cut it into small, fine strings and start weaving beautiful pieces of art. Jesús was one of the best in the country, and I*

886 Joel Wagner, Michael Martin, Kate Roney Faulkner, Sarah Chaney, Kevin Noon, Marie Denn, and Jeff Reiner, Riparian System Recovery after Removal of Livestock from Santa Rosa Island, Channel Islands National Park, California, Technical Report NPS/NRWRD/NRTR-2004/324 (Fort Collins, CO: National Park Service, Water Resources Division, 2004).

887 Ibid.

thought, "Boy, if visitors can see this guy make the rawhide riata and start asking questions about his life on the island and how long he's been here and what he likes best about it..."[888]

The park later worked constructively with members of the Gherini family to preserve and interpret aspects of their ranching history on East Santa Cruz Island but without any animals. Nevertheless, the intense ill-feelings generated by the controversy between the Vail family and the Park Service destroyed the prospect of seeing a similar relationship develop in connection with Santa Rosa Island.

The effects of this controversy also extended beyond the park itself. One example was public opposition to the Gaviota National Seashore, which the National Park Service proposed for a 76-mile stretch of coast on the mainland just north of the Channel Islands. Representative Lois Capps (D-Santa Barbara) requested that the Park Service conduct a feasibility study to determine whether this sparsely populated coastal area should be included in the national park system. Congress authorized the study in November 1999, just as President Clinton prepared to vacate the White House for George W. Bush. The National Park Service initiated the study early the following year with tepid support from the new administration. It was greeted with angry resistance by many local landowners, who opposed what many perceived as a threat to their private property rights by the federal government. Vail & Vickers' experience on Santa Rosa Island was repeatedly cited as an example of what could be expected if the proposal went forward. Mary Vail, one of Al Vail's two daughters, was a regular participant at the public scoping meetings and workshops that were held over the next few years. She openly criticized the Park Service, sharing stories from her family's recent dispute with the agency at Channel Islands. Her testimony helped galvanize opposition to the proposal among local private landowners, especially agriculturalists and ranchers. In response, the National Park Service abandoned the Gaviota National Seashore proposal at the end of the study period in early 2004.[889] The connection between the Vails' experience at Channel Islands and the failure of Gaviota was noted by Tim Setnicka, who retired from the Park Service while that study was underway. He later commented to the press, "The Santa Rosa lawsuit was used by the opposition as a great example of the federal government breaking its promises. It was argued that, as a landowner, you can't trust the park service because, 'look what happened on Santa Rosa Island.'"[890]

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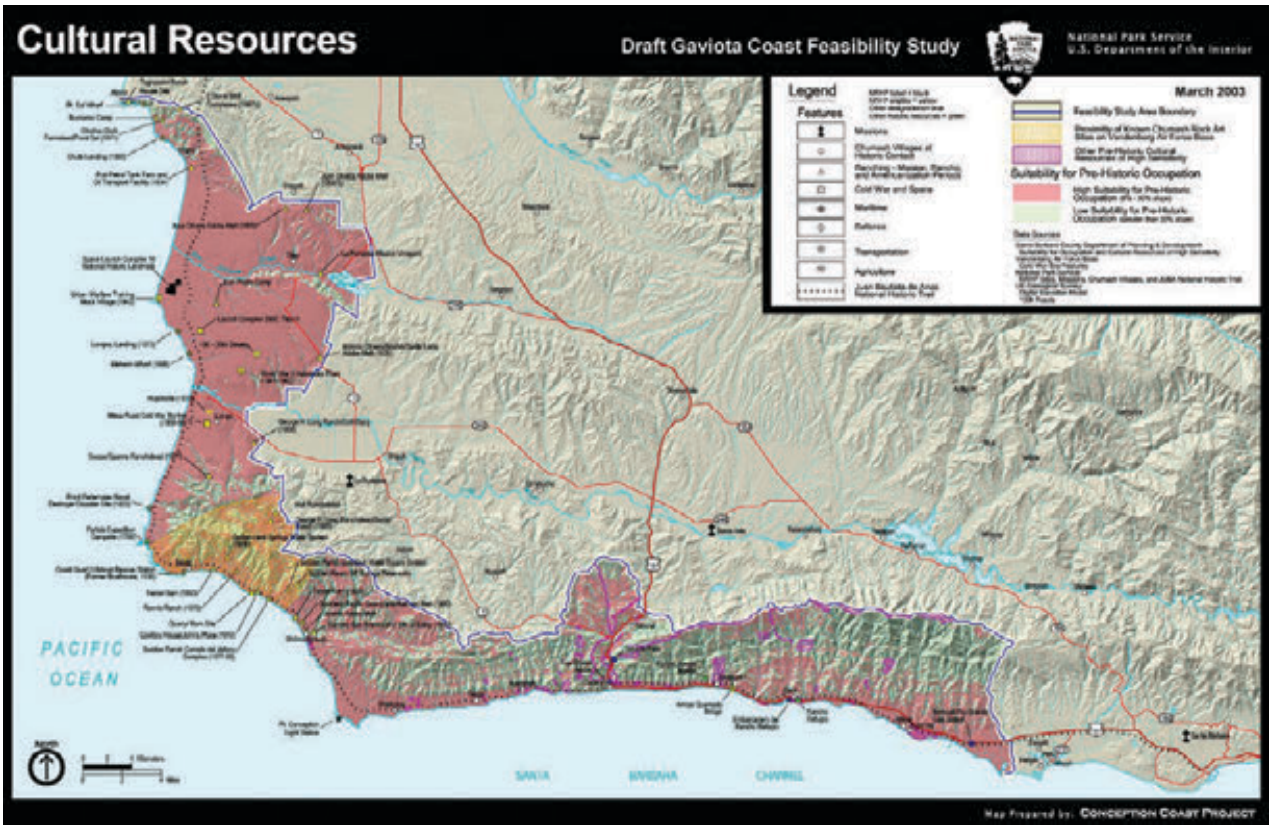
888 William Ehorn, recorded interview, December 6, 2001. CINP Archives, Cat. 35833.

889 Kenneth Weiss, "National Seashore Washing Out With Bush Administration," *Los Angeles Times*, August 20, 2002; DOI, Gaviota Coast: Draft Feasibility Study and Environmental Assessment, April 2003 (San Francisco, CA: NPS, Pacific Great Basin Support Office, 2003); DOI, Gaviota Coast: Feasibility Study and Environmental Assessment; Errata and Summary of Public Comments and Responses, February 2004 (San Francisco, CA: NPS, Pacific Great Basin Support Office, 2004); Kenneth Weiss, "Status as National Seashore Rejected for Gaviota Coast," *Los Angeles Times*, March 10, 2004; Martha Crusius and Ray Murray, Planning Division, NPS, PWRO conversation with Timothy Babalis, notes in CINP Archives.

890 Tim Setnicka, "Santa Rosa Saga, Part Two: Bureaucracy Abounds as the Battle Over Santa Rosa Island Continues," *Santa Barbara News-Press*, October 15, 2006.



Map 7-1. The proposed Gaviota National Seashore would have been only the second national seashore on the Pacific Coast and the 11th in the country. Local opponents cited the controversy on Santa Rosa Island as a reason to fight the proposal.

Source: US Department of the Interior, Gaviota Coast: Draft Feasibility Study and Environmental Assessment, April 2003.

Superintendent Mack Shaver retired in March 1996. During his tenure, the resource management and interpretation divisions had increased in size, the park had gotten the inventory and monitoring program off the ground and park housing had been greatly upgraded, among other accomplishments. Shaver characterized his period as superintendent as one of transition, from land acquisition to resource management and education. It was the time when Channel Islands came of age as an established park that became more professional in skills and ability and strong technologically, building on the groundwork laid by Bill Ehorn and regional leaders.[891]

891 Holly Bundock and Mack Shaver comments to Lary Dilsaver, October 28, 2019.

CHAPTER EIGHT

New Owners on Santa Cruz Island

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CHAPTER EIGHT: NEW OWNERS ON SANTA CRUZ ISLAND

The two deeds signed by grantor Carey Stanton as director of the Santa Cruz Island Company and The Nature Conservancy as grantee spelled out the framework of their relationship but were interpreted differently in the years that followed. This led to misunderstandings and a deterioration in relations between Carey Stanton and TNC following the sale.[892]

The sale specified that Stanton's rights on the island would expire in 2008 or when he died, whichever came first. The more significant conservation easement spelled out the details of their co-existence. It began with the following statement:

> *It is the purpose of this Conservation Easement to preserve and protect in perpetuity and to enhance by restoration the natural ecological and aesthetic features and values of the Island. Specifically and without limitation of the general purposes, it is the purpose hereof to preserve, protect and enhance the soil composition, structure and productivity, the native flora and the native faunal habitat and the hydrologic and geologic features of the Island. In so doing it is the purpose of this Conservation Easement to foster the continuation of the agricultural and ranching practices as they are currently conducted in harmony with the ecological and aesthetic features and values of the Island and to allow other activities as are not inconsistent with the purposes and terms hereof.*[893]

Thereafter, a number of detailed stipulations: (1) reiterated the mandate to protect and enhance the natural environment; (2) established the rights of the Conservancy to enter the island for scientific research, interpretation, and education as long as those activities were consistent with the use of the island by the grantor and would not "violate the privacy of the residential compounds on the Island;" (3) mandated that the Company could continue "to pasture and graze livestock and to continue agricultural activity of the Island as those activities are currently practiced in a manner consistent with the maintenance of the natural flora and natural fauna and maintenance of soil composition, structure and productivity;" and (4) allowed for the continued use of "selective control techniques as heretofore conducted" to control feral animals.[894]

Although this arrangement appeared to leave little room for The Nature Conservancy, except as inheritor of the ranch after Carey Stanton's death, the agreement gave the organization considerable authority to manage the island's natural resources. TNC appointed Robert "Bob" Hansen to provide on-site stewardship of the new reserve. The relationship between Carey Stanton and TNC got off to a poor start when TNC declined to give Stanton a seat on their

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892 Key officials for The Nature Conservancy's Santa Cruz Island Preserve program included California State Director Peter Seligmann, California Land Steward Steven Johnson, Robert "Bob" Hansen as the first SCI Preserve Manager and later SCI Project Director, Peter Schuyler as his replacement as SCI Preserve Manager, and Frank Boren as the Conservancy's representative on the Santa Cruz Island Company Board of Directors. Most of the communication between Carey Stanton and TNC was with Bob Hansen whom Stanton liked and Boren whom he did not trust.

893 A copy of the official real estate purchase deed is located in CINP Archives, Acc. 304.4, Cat. 10145, Folder 12; The conservation easement deed is in ibid., Box 1, Folder 2.

894 Ibid.

California board of directors as Stanton had expected. Nor did he anticipate the changes in his life on the island with the arrival of TNC. According to his assistant Marla Daily:

> *For his part, he fully expected to be left alone, to enjoy his life and privacy for the rest of his years. He was completely unprepared for and astounded by their ambitious and aggressive nature. He didn't foresee the constant demand for his attention; the changes to his routine; and never expected to be sued by TNC.*[895]

The major management issue that TNC faced was the detrimental impact of feral sheep and pigs and it could only be solved by their elimination. Hansen established a small tent city in the Central Valley to serve as a base of operations for the research team. The research team was asked to focus on the following two questions: (1) "What was the basic ecology and present status of the feral sheep population on Santa Cruz Island?" and (2) What impacts were the sheep having on the natural resources of the island? The ensuing research on produced stark details about the impact of feral sheep on the Santa Cruz Island ecosystem. Wildlife biologist Dirk Van Vuren reported that: (1) 36% of the island was heavily impacted by sheep; (2) densities in these areas averaged 85 animals per 100 acres, over twice the maximum stocking rate on a mainland sheep ranch; (3) the ovine population would probably recover from a massive, unsuccessful control attempt in just a few years; (4) endemic plants totaled only a fraction of 1% of available forage, but comprised up to 17% of the sheep diet; and (5) an area disturbed by sheep supported less than one-half the number of birds and about one-half the number of bird species that existed in an adjacent undisturbed area. The endemic Santa Cruz Island scrub jay (*Aphelocoma coerulescens insularis*) had been reduced in numbers by 45%. Van Vuren recommended a combination of fencing, trapping, and hunting to eliminate the feral sheep.[896]

The researchers were unanimous in calling for the removal of the sheep as soon as possible. Although this recommendation was consistent with the Conservancy's goals for the reserve, it would cost considerably more money to implement than the organization currently had available. TNC, however, had identified a potential funding source with the Fleischmann Foundation, which was willing to offer $3,000,000 for a well-justified proposal.[897]

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895 Marla Daily stated that, "At the outset, TNC presented Stanton with elaborate architectural plans they had drawn-up by William Turnbull, developer of Sea Ranch in coastal Sonoma County, for a TNC complex …. Carey was astounded by their hubris and denied his permission for any such development." Stanton later allowed TNC to build several cabins west of the University of California field station. Almost immediately upon their occupancy, however, he complained about TNC people driving through the ranch, despite the agreement that TNC would not violate the privacy of the residential compounds on the island. Stanton did not hesitate to call TNC to remind them of their obligation to respect his privacy Marla Daily email to CINP, October 19, 2019.

896 Dirk Van Vuren, 1981, "Abstract." 1981, Santa Barbara Museum of Natural History Archives (hereafter SBMNH Archives), Bob Hansen Collection, Box 78, Folder 4032; Carey Stanton later blamed his problems with TNC's hunt on this study and forbade any research later conducted on the island from including management recommendations. This became an issue after TNC and the Santa Barbara Museum of Natural History (SBMNH) established a program to administer funds for scientific research on the island. Stanton insisted that he review all the proposals to make sure they did not have offending recommendations.

897 Peter Schuyler, "Control of Feral Sheep (Ovis aries) on Santa Cruz Island, California," in F. G. Hochberg, ed., *Third California Islands Symposium: Recent Advances in Research on the California Islands* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1993).

Figure 8-1. Sheep on Santa Cruz Island remained a source of income for Carey Stanton into the early 1980s and the major economic activity of Gherinis into the 1990s, primarily through hunting concessions. This photo provided by John Gherini shows a large flock on the eastern side of the island.

Source: Photographer and date unknown.

In order to secure the grant from the Fleischmann Foundation, TNC wanted Carey Stanton, as the director of the SCIC, to sign an official letter of support for TNC's natural resource management. The formal letter Stanton wrote on March 28, 1980, was unequivocal in its support of eliminating feral animals:

> *For many years the Santa Cruz Island Company has been active in attempting to control the feral sheep and pigs on the island, with the eventual goal being the total elimination of the entire feral population. We are certainly aware of the destruction caused by these animals. The environment does indeed suffer because of their presence, and there is virtually no economic gain derived from them. With the Conservancy's acquisition of an interest in the island, I am hopeful that a solution to this major problem can be found. I am pleased that the Conservancy is making a serious effort to learn more about the habits of these animals to be better prepared to cope with the situation. I will surely help all I can in any sensible effort to rid the island of these animals. Any effort to eliminate these animals will have to be massive. It will be expensive, involving much labor and equipment. This I know very well from the many years that my family and I have spent trying to solve the problem. It is*

> *a huge undertaking, but certainly worthwhile and essential to preserve the island ecology.*[898]

However, this unqualified support for the mission of TNC overlooked two realities. First, the Santa Cruz Island Hunt Club did indeed provide a large and continuing source of economic gain from its sheep hunts. It is uncertain why Stanton felt he needed to add the statement about "no economic gain" to the letter. The other mistake was in assuming that TNC would be unable to completely eliminate the sheep in a short time. Recreational hunters did not have a significant impact on a population estimated to be more than 20,000 because of the fertility of the island's ewes. A systematic assault by professional hunters aiming at extirpation was another story.

At that point, as in so many instances with the Channel Islands, different stories emerge about the letter. According to Marla Daily, who was acting as Carey Stanton's personal assistant by that time, Bob Hansen approached Stanton in 1980 asking for his agreement in a proposal to manage the feral sheep. Hansen and Carey Stanton were on friendly terms and reached what Daily recalls was a "gentleman's agreement," that although the formal proposal would call for the eradication of the sheep, in fact, management would continue at the same levels as before, maintaining, but not eliminating, existing populations. This would assure the continued viability of the Santa Cruz Island Hunt Club. The two men shook hands, and then Stanton wrote the letter, as required before TNC could receive the Fleischmann grant that would fund the project.[899] However, Bob Hansen flatly denies that such an event and agreement ever happened:

> *Any agreement of that kind with Carey would have been above my pay grade. I was hired to manage TNC's project according to any approved and funded plan. Entering into agreements like what Marla described was not my charge.*[900]

In 1981, TNC completed a comprehensive sheep management plan, incorporating Van Vuren's recommendations and addressing potential legal issues and anticipated public reactions. The Conservancy allocated $240,000 and two full-time positions toward the project. Among the methodologies considered, trapping was soon abandoned after it was discovered that sale of the sheep off-island was not economical, while the treatment itself would prove prohibitively time-consuming. Program managers decided instead to focus on fencing and hunting. To deflect public and media attention from the anticipated killings, TNC used the Santa Cruz Island Hunt Club as a shield and referred to its effort as a "Pasture Improvement Program" aimed at protecting forage for Stanton's cattle operation. Between 1981 and 1983, over 100 miles of sheep-proof fencing was installed or repaired, partitioning the Santa Cruz Island reserve into 23 separate pastures. Hunting began on December 17, 1981, using professional marksmen. Carey Stanton was away at that time, travelling in Europe, and was not present to monitor the scope or

898 Letter Carey Stanton to Patrick F. Noonan, March 28, 1980, provided to Lary Dilsaver by Bob Hansen.

899 Marla Daily interviewed by Timothy Babalis, August 19, 2009. Transcript on file in CINP Archives. Marla was not actually present during these negotiations. Her account reflects what Carey Stanton reported to her shortly after the events took place; Marla Daily e-mail to CINP, October 19, 2019.

900 Bob Hansen personal communication to Lary Dilsaver, September 19, 2018.

intensity of the operation. He continued to assume that the objective of the program was population maintenance rather than eradication.[901]

Once Stanton became aware of the full scope of The Nature Conservancy's project, he complained that he had been betrayed. Stanton directed most of his anger at Frank Boren who was the TNC representative on the Board of the Santa Cruz Island Company. His relations with Boren were far less cordial than they had been with Hansen. Even before the hunt, he bitterly complained that Boren bawled him out during a board meeting. By then TNC was well aware of Stanton's sensitivity to rebuke and outrage at usurpation of the island control he insisted was his alone. Hansen later wrote to his colleagues in TNC:

> *Very early in the development of the Santa Cruz Island Project a pattern of diplomacy was established that required all TNC activity on the island be reviewed and "approved" by Dr. Stanton. Our lack of knowledge of day-to-day operations of the island, ambitious stewardship objectives (sheep) coupled with a desire to work cooperatively with a volatile land owner were reasons enough to choose this course. It is easy to recall the protracted discussions waged over construction of our cabins, boat, manager's residence, staff use of the island, not to mention the early days of our pasture/sheep eradication program. All along, Carey has been effective at keeping TNC on the defensive. The Conservancy has provided Carey with a steady stream of "infractions" which Carey has effectively seized upon and inflated to crisis level.*[902]

By this time the national park had been established, and Superintendent Ehorn was developing very positive relations with all of the private landowners on the big islands, including Stanton. Ehorn later recalled:

> *I tried to get all the landowners together, which I did on several occasions. I had the Gherinis, Dr. Stanton, the Vails; and we'd come out to Santa Rosa Island and take a tour of the island and have a nice lunch and everything. Everybody would visit and we would talk about old times.... [Then] Dr. Stanton would reciprocate, pick up the Vails, and we would go to Santa Cruz Island and bring the Gherinis in. So we went island hopping, all of us.*[903]

The trust that grew between Stanton and Bill Ehorn contrasted sharply with the increasing bitterness that characterized his relations with TNC. Stanton came to rely on the park for support and advice, calling Superintendent Ehorn at least once a week, often at home. On one occasion, after an illegal trespasser had started a fire at Pelican Bay, Ehorn responded personally to Stanton's call for assistance. He flew out to the island with several of his staff and contained the fire with handlines. Stanton expressed his gratitude by writing a letter to the director of the

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901 Bob Hansen telephone interview with Lary Dilsaver, September 1, 2018; Based on Marla Daily's recollection of Stanton's claims, she later noted, "The hunting that began on December 17, 1981 was strategically planned by TNC to take place when Carey would be at his house in Eriskay, Scotland. He was given no notice of the marksmen in helicopters that would be swarming Santa Cruz Island in his absence, killing thousands of sheep. He felt extremely violated and betrayed by TNC and their stealth operation. He felt TNC was trying to bankrupt him by putting the Hunt Club, a significant part of the island's income, out of business. Their 'pushing' had escalated out of control. Indeed it was a crisis level in the life of Carey Stanton." Marla Daily comments to CINP, October 19, 2019.

902 Bob Hansen to Frank Boren, Steve Johnson, Steve McCormick, September 16, 1986, SBMNH Archives, Bob Hansen Collection, Box 78, Folder 4034.

903 Bill Ehorn interviewed by Ann Huston, December 6, 2001. Transcript in CINP Archives, Cat. 35833.

National Park Service. Ehorn wondered if Stanton regretted his decision to sell his ranch to TNC instead of the Park Service, but despite his respect for current park staff, Stanton apparently never changed his opinion of the government.[904]

The Nature Conservancy pondered ways to avoid further confrontation and accelerate its eradication of sheep. Its officers discussed options including purchase of the Hunt Club outright, which would include the remaining sheep, or buying just the bow hunting operation which would give it control of more acreage and the animals on it. Yet these musings all carried the same ultimate goal—maintain the pressure on the SCIC and the focus on killing sheep. If necessary, TNC considered suing the Company to legally force Stanton to support the ecological restoration as stipulated in the 1978 easement and backed by scientific research. Eventually, TNC did file suit on April 26, 1984, accusing the SCIC of not following section 7 of the contract enjoining it to not allow "waste or depletion" of the island. This was because it "willfully and deliberately obstructed and prevented The Nature Conservancy's efforts to eliminate feral sheep."[905]

TNC had already won the issue by the time it filed suit but went ahead just in case. On March 21, 1984, representatives of TNC including Frank Boren and Bob Hansen had met with Carey Stanton and his attorney David D. Watts of O'Melveny and Myers at the lawyer's office. Stanton issued a verbal ultimatum forbidding TNC from killing any more sheep. At that, Boren produced a copy of the letter Stanton wrote on March 28, 1980, as quoted above. Watts turned to Stanton and asked him if he had signed it. Stanton replied that he had but it didn't really mean anything. At that point, the lawyer slid the letter back to Boren and told him TNC could proceed as it saw fit. Hansen recalls that this was the moment that Carey Stanton lost any semblance of control over the sheep program. On July 27, an angry Stanton met Hansen on Santa Cruz Island and warned him that the press was going to get the story of the sheep slaughter by TNC. Hansen recalls that "five days later Carey flew to his 'vacation home' in the Outer Hebrides island of Scotland and the *Los Angeles Times* and the rest of the media circus arrived at the TNC office on Stearns Wharf in Santa Barbara." [906]

Stanton's defeat coincided with a lawsuit filed by a hunters' advocacy group called the California Wildlife Federation against The Nature Conservancy. The Federation claimed that TNC was destroying one of the finest recreational hunting opportunities in North America and sought a temporary restraining order to stop the eradication program. In response, TNC asserted that such an order would result in irreparable damage to the island's natural ecosystems. That argument was upheld by the court and the plaintiffs dropped their suit.[907]

By this time Stanton's income had dwindled to a dangerously low level. He complained that revenues from his oil holdings had fallen to zero and that TNC's eradication of sheep all but eliminated his primary source of funds. According to Marla Daily, Stanton negotiated with TNC's Frank Boren regarding compensation for the sheep and the loss of income from his hunt club. He initially valued the sheep at $100 per head, which would total $3,200,000 in lost assets,

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904 Ibid., See Marla Daily interview for Stanton's persistent views on government. CINP Archives, Cat. 35818.

905 Lawsuit materials in SBMNH Archives, Bob Hansen Collection, Box 79, Folder 4036.

906 Bob Hansen telephone interview with Lary Dilsaver, September 1, 2018; Bob Hansen email to Lary Dilsaver, September 26, 2018.

907 Peter Schuyler, "Control of Feral Sheep." 450.

with TNC's killing of 32,000 sheep. He later rounded down the total number of sheep killed to 30,000, put a nominal base price of $20 per sheep on the figure, and asked TNC to compensate him in the amount of $600,000.[908] TNC simply refused to pay anything for the sheep, arguing that their elimination was part of its charge to protect the island. TNC officials were well aware of the effect their program was having on the future of the Hunt Club, but would not be lured into an onerous and continuing expense. Instead, they offered a 10-year program during which TNC would not veto uses of the SCIC Director's Fund that went annually to Stanton for the operation of the Company. This arrangement would begin once the population of sheep dropped to 250. The key stipulation was that Stanton could only use the money for the maintenance of historic buildings, furnishings, and other structures. Any amount unused in a given year for these purposes would go into an endowment for future maintenance. This meant that Stanton could not use the funds as he had when he provided a bonus to his friend and assistant Henry Duffield for 25 years of service. This was one of the issues that led to Frank Boren's criticism of Stanton.[909]

Ironically, the Santa Cruz Island Hunt Club went out of business in 1985. During the previous year, several accidents involving customers occurred, one of which left a woman paralyzed. According to Marla Daily, "there was a lawsuit, a woman fell off a cliff, allegedly on drugs, out at the Christy Ranch out on the cliffs and they sued, the insurance wasn't renewed."[910] Attorney Watts wrote to Frank Boren and blamed the Club's shut down on its "inability to operate under the restrictions imposed by The Nature Conservancy's actions."[911] TNC immediately rejected that claim. Mark Oberman, owner of Channel Islands Aviation, approached Stanton and offered to start a new hunting and recreation company on the island to be called Channel Islands Adventures. His flying service derived considerable income from transporting hunters to Santa Cruz Island and he was loath to lose it. The contract was similar to that with the defunct Santa Cruz Island Hunt Club. The major difference was that the hunt would have to focus on pigs. By late 1986, relatively few sheep remained although wary survivors in nearly inaccessible reaches of western Santa Cruz Island still demanded attention.[912]

Over the next two years the abrasive relationship between Carey Stanton and TNC worsened. Bob Hansen divided restrictions placed on TNC into "great" and "petty" issues. The former included the demand for a payment for each sheep killed plus Stanton's insistence that no one could access the island without his personal permission; that according to the 1978 contracts he alone could be listed as owner of the island (TNC maintained that it had established an ownership interest in the island equivalent to that of a partnership); that he wanted assurances that his antique furniture, books, and other personal possessions would be maintained on the island as a museum and that he forbade publicity about the island. The latter led him to ban the

908 Marla Daily reported that Frank Boren agreed to provide the funds at a rate of $20 per sheep but then refused to return Stanton's phone calls and claimed he was not authorized to make such a deal. This led to Stanton's mistrust of and conflict with Boren. Marla Daily comments to CINP, October 19, 2019.

909 Letter Steve Johnson and Bob Hansen to Laurel Mayer, September 11, 1984, SBMNH Archives, Bob Hansen Collection, Box 78, Folder 4026; Bob Hansen interview.

910 Marla Daily interview.

911 Letter David Watts to Frank Boren, January 10, 1986, provided by Bob Hansen to Lary Dilsaver.

912 Mark Oberman e-mail to Lary Dilsaver, June 2, 2019.

Cousteau Society from making a documentary[913] and a reporter from *Time* magazine from writing about the island. Petty issues included a stream of complaints about TNC's base camp and its staff using the island for recreation. Stanton also refused to let TNC staff or researchers use the road through his Main Ranch in winter when the alternate route was impassable; to permit construction of a fence on his portion of the island to keep out trespass sheep from the Gherini property; and to approve other restoration projects TNC sought to accomplish in a timely manner. Finally, he charged that if TNC wanted to hunt sheep in the Central Valley, it should do so with silencers so he and his guests would not hear it.[914]

Figure 8-2. The Central Valley of Santa Cruz Island looking east. The trees nearly spanning the width of the valley in the distance are a mature eucalyptus grove that hide the Main Ranch from view.

Source: Photograph by L. Dilsaver, August 2018.

913 Marla Daily recalled, "I was witness to Carey's call from Jacques Cousteau when he denied him access to film "Cousteau's Rediscovery of the World" (1986) on Santa Cruz Island. Carey told Cousteau that while he respected his work, it was not in the best interest of the island to have it brought to the attention of millions of television viewers around the world. People would want to visit; the island could suffer harm. He did invite Cousteau to lunch, but he declined, after telling Carey that he was the only person to ever deny permission to Jacques Cousteau. This event had nothing to do with TNC. It was always Carey's position that it was his responsibility to protect the island from publicity, from the public at large, and from the federal and state government. It is, in fact, why he chose to work with The Nature Conservancy. As a private organization they had more latitude to keep people away." Marla Daily comments, October 19, 2019.

914 Letter Bob Hansen to Frank Boren et al., September 16, 1986, SBMNH Archives, Bob Hansen Collection, Box 78, Folder 4026.

Late in 1986, several events added to Carey Stanton's woes. He had turned to drinking and taking antidepressants to combat his frustration and periodic depression. His ranch manager and long-time friend, Henry Duffield, suffered a stroke that further incapacitated him. Faced with a bleak future, he committed suicide on November 23, 1986. From that time forward Stanton's depression and drinking worsened. He had expected the arrangement with TNC to leave the island in a state of preservation that he proudly maintained was due to his resistance to external threats and his care in managing its use. He also thought he would be left alone to continue directing its preservation unhindered until TNC would take over in 2008. By that time, he would be 85 years of age. He never wanted TNC to have a presence on the island during this contract period. He later claimed that, instead, every time he turned around there they were. Sometime during the night on December 8,1987, he went to bed only to arise and go to the bathroom, probably feeling quite ill. There he died at the age of 64. University of California Research Station Director Lyndal Laughrin found him the following morning. An autopsy later confirmed that a combination of tranquilizers, aspirin, and alcohol killed him. With that, TNC gained complete control of Santa Cruz Island, except for the Gherini tenth, and the SCIC that ran it.[915]

MANAGEMENT OF WEST SANTA CRUZ ISLAND BY THE NATURE CONSERVANCY

After Stanton's death, conflict arose between TNC and the Channel Islands Adventures. Bob Hansen complained that customers and some of the guides of Channel Islands Adventures held loud beach parties, drove too fast, left gates in the fences open, shot birds, plundered archeological sites and rare plants, trespassed on Gherini land, used mountain bikes, ignored state laws about hunting licenses, and behaved in a manner that reflected badly on TNC and its mission.[916] Mark Oberman has stated that TNC never informed him of these charges and only later he had learned that some of his customers had poached sheep from the Gherini property. According to Oberman:

> *After Dr. Stanton's death in 1986, the TNC approached us on buying us out, they didn't say why but I found out years later from Steve Johnson who happen to mention in passing that TNC was concerned about their property tax exempt status with our for profit, (or loss) operation on the island. We had only been operating a few months when TNC asked for a buyout price, and we actually made good money those months so our asking price reflected that profitability. Instead of negotiating with us, TNC hatched a plan to get rid of our operation for nothing while having us paying a percentage of revenue and improving the facilities significantly at the Christy Ranch. Part of the amended agreement was to implement a minimum rent and insist that the hunting operation be taken over by MUM [Wayne Long's Multiple Use Management] who TNC assured would be able to more than meet that*

915 Lyndal Laughrin interviewed by Lary Dilsaver, Robin Dilsaver, and Laura Kirn, August 29, 2018; Marla Daily added, "Carey's death was…an unfortunate combination of three substances: the six aspirin he had taken in the morning, vodka, and Vistaril, an antihistamine with sedative properties. The salicylates in the aspirin were the actual agent that caused his death. In combination with the vodka and Vistaril, the salicylates triggered what coroner Larry Guillespie explained to me was an 'electric death', whereby an electric current is created by chemicals that when combined can shock and stop the heart." Marla Daily comments to CINP, October 19, 2019.

916 Letter Steve Johnson to Mark Oberman, March 7, 1989, SBMNH Archives, Bob Hansen Collection, Box 78, Folder 4024; Letter Bob Hansen to Steve McCormick and Steve Johnson, October 27, 1988, Ibid; Memorandum Bob Hansen to the Files, November 7, 1986, Ibid; Letter E. Lewis Reid to Steve Johnson, February 23, 1989, Ibid., Folder 4025.

> *minimum. MUM did not meet the minimum putting CI Adventures in breach of contract, and TNC then cancelled our agreement. We did not fight TNC's questionable business ethics because we didn't want to jeopardize our ongoing flying for them.*[917]

The means by which TNC curtailed Channel Islands Adventures' hunting operation stemmed from a stipulation in its contract with Oberman. It held that CI Adventures would maintain an exclusive right to hunt pigs as long as it kept the population below 1,251. If not, it would receive a 60-day notice to bring the numbers to within 110% of that target. After 60 days, if unremedied, the company would lose its exclusive right to hunt. On March 7, 1989, Steve Johnson of TNC informed Oberman that he had ignored a notice of noncompliance, the grace period had passed, and therefore his organization had lost its exclusive right. Johnson added that TNC would probably use a professional pig-hunting company to kill the pigs and CI Adventures would have to coordinate its activities around that operation. This contractual stipulation reflected the influence of TNC as part of the SCIC prior to Stanton's death.[918]

The Nature Conservancy's sheep eradication efforts continued up through 1989, with additional hunts in the so-called "No Man's Land" on the western slopes of the Montañon as late as 1997. By June of 1989, TNC's hunters had shot nearly 32,000 sheep. Additionally, the Santa Cruz Island Hunt Club shot over 5,000 animals up until its dissolution. That brought the total number killed to just over 37,000, with fewer than five known to be still living west of the Montañon by the end of that year. The Gherini sheep on East Santa Cruz Island remained a problem, and TNC continued to hunt trespass animals periodically up until 1997 to prevent recolonization of its reserve.

Bob Hansen continued as TNC's Southern California Field Representative until July 14, 1989. During the 19 months following Carey Stanton's death, he acted as director of the Santa Cruz Island Company. His duties included removing the cattle from the island, completing the sheep eradication, dealing with the Santa Cruz Island Foundation, and planning how to manage the large property TNC now owned. Questions of how many visitors to allow on the island, how to make the preserve a compelling example of restoration for potential donors, and how to deal with the biotic effects of removing the sheep from the ecosystem kept staff and volunteers busy. Peter Schuyler helped greatly by managing the sheep program on the island. When Hansen left TNC, the Santa Cruz Island Company ceased to exist.

Reserve managers observed a marked increase in native species diversity and canopy cover almost immediately following the conclusion of the initial sheep treatment phase. They found seedlings for three endemic woody species of island oak (*Quercus tomentella*), bush poppy *Dendromecon rigida harfordii*), and Catalina ironwood (*Lyonothamnus floribundus asplenifolius*) within four years after the majority of sheep had been removed from northern enclosures. While mature individuals of these species remained relatively abundant, resource managers had observed few young seedlings in recent history indicating a predictable failure of the species due to adverse grazing pressure. One endemic forb, silver birds foot trefoil (*Lotus argophyllus*

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917 Mark Oberman e-mail to Lary Dilsaver, June 2, 2019.

918 Ibid., Letter Steve Johnson to Mark Oberman, March 7, 1989, SBMNH Archives, Bob Hansen Collection, Box 78, Folder 4024; Letter Bob Hansen to Steve McCormick and Steve Johnson, October 27, 1988, Ibid; Memorandum Bob Hansen to the Files, November 7, 1986, Ibid; Letter E. Lewis Reid to Steve Johnson, February 23, 1989, Ibid., Folder 4025.

niveus), that had dwindled to near extinction, made a dramatic comeback following the eradication of the sheep and became common in many areas.[919]

The Santa Cruz Island Foundation

One of the more difficult issues TNC had to solve was what to do with the many valuable possessions that Carey Stanton had amassed in his island home and out-buildings. This had been a persistent worry for Stanton and a source of antagonism between him and TNC for most of the decade they interacted. Stanton came to realize that TNC's mission was focused on natural history and that they had little interest in the island's rich cultural history. He created the Santa Cruz Island Foundation (SCIF) in 1985 with an aim to work with TNC to preserve the island's cultural resources, including his personal collections which he felt greatly enhanced the historic ranch buildings. Stanton served as president of the foundation, and upon Stanton's death, Marla Daily succeeded him as president. According to the Foundation's own statement of purpose:

> *The Santa Cruz Island Foundation is a non-profit public benefit corporation established in 1985 [Articles of Incorporation were filed in 1986] by the late Carey Stanton to collect, maintain, and catalog items of real and personal property or interests regarding Santa Cruz Island and the other California Channel Islands, unique island environments off the coast of Southern California, and to display for public benefit items in cooperation with The Nature Conservancy, the National Park Service or others as well as to promote research and publications dealing with historical aspects of the California Channel Islands. In addition, the Santa Cruz Island Foundation organizes and sponsors public exhibits and events dealing with the California Channel Islands, and organizes and sponsors educational trips. The Foundation presents and sponsors Channel Islands public lectures and slide shows along with school presentations. The Foundation actively promotes public access to research materials, books, maps, art, artifacts, furniture, etc. related to the California Channel Islands and preserves and restores, for public benefit, structures on the California Channel Islands.*[920]

As originally established, the Santa Cruz Island Foundation was unfunded, but Stanton made an annual contribution to pay Marla Daily's salary. He established a board of directors with three members including Daily. As reflected in its mission statement, Stanton originally intended that SCIF and TNC would work together to maintain and preserve his legacy. The lands and buildings that comprised the Stanton Ranch would be managed by the Conservancy, but the contents of these buildings—the furnishings, art work, etc.—were to remain on the island and be the responsibility of the Foundation to curate.

When Stanton died and TNC assumed full ownership of the Santa Cruz Island Company, it included all real property associated with the ranch, as stipulated in the 1978 deed of sale. TNC gave the Santa Cruz Island Foundation 30 days to remove all of Stanton's personal effects, contrary to the intentions of his will.[921] Director Steve McCormick of TNC later clarified that his staff made a distinction between "those [of] Carey Stanton's furnishings on the island that represent part of the island's history," that the Conservancy wanted to keep in place, and those

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919 Peter Schuyler, "Control of Feral Sheep," 450.

920 "Santa Cruz Island Foundation, Statement of Purpose," CINP Archives, Acc. 265, Cat. 6494, Box 9.

921 Marla Daily interview, 2009.

"very valuable and tangible personal belongings of Carey's" that they did not want to assume responsibility for and wanted removed from the island. The latter included paintings by Richard Diebenkorn, furniture, a gun collection, and various small art objects.[922] Early the following year, NPS historian Linda Greene and historical architect Ric Borjes visited the Stanton Ranch to inventory and assess its cultural resources. They recommended that all of the furnishings be kept in place on the island and actively curated by the Santa Cruz Island Foundation[923] (see figure 5-6).

TNC remained unpersuaded by the Park Service's recommendations. Finally, the furnishings in the Phoenix House and upstairs in the Justinian House were placed in storage in the ranch winery building; Stanton's office furnishings were removed to SCIF's office in Santa Barbara; and furnishings in the other buildings were left in place. The removal of Carey Stanton's belongings angered many influential people who had known him including the Vails and Congressman Robert Lagomarsino.[924] Bill Ehorn telephoned the president of TNC in Washington, DC, and threatened legal action. This led to some angry meetings between the park and TNC staff but achieved no other results. Before Ehorn was able to pursue the matter any further, he left Channel Islands to accept a new position as superintendent of Redwood National Park.[925]

Ehorn's successor, former chief ranger Mack Shaver, was more conciliatory in his relations with The Nature Conservancy. One of the first things he did after entering on duty in November of 1989 was prepare a cooperative agreement with TNC to "coordinate all aspects of Park management relevant to their shared objectives [preserving natural and cultural resources with limited public access]." The agreement was signed in January 1991 and was effective for five years with the possibility of renewal. It stipulated that the signatories would cooperate in developing a parkwide general management plan to update the existing 1985 plan, a statement for management, and a development concept plan for Santa Cruz Island. Both parties agreed to cooperate in research, including long-term resource inventory and monitoring, and in the development and implementation of feral animal and exotic plant management programs. They also agreed on terms for cooperation in practical operations such as fire management, emergency response, communications, and facilities maintenance.[926]

The Nature Conservancy had been struggling to formalize its management plans for Santa Cruz Island since Carey Stanton's death in 1987. It wanted the reserve to be "the showcase of Conservancy properties" and intended to use it to host major donors for fundraising purposes. One of the reasons the Conservancy had been so insistent about removing Carey Stanton's furnishings from the main ranch house was to make this place appropriate for hosting distinguished guests. TNC also wanted to control its own property which would have been complicated if it contained furnishings owned by the Santa Cruz Island Foundation. The new

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922 Steve McCormick to William Ehorn, May 20, 1988, Tom Mulhern Collection, PWRO Archives, San Francisco, CA.

923 Linda Greene, "History of Settlement on Santa Cruz Island," typescript, 1988, Ibid., Richard A. Borjes, "Existing Conditions," manuscript, 1988, Ibid.

924 Many of Carey Stanton's possessions were sent to the Foundation's headquarters in Santa Barbara, but others were simply placed in a Conex shipping container in the lower winery at the Main Ranch on Santa Cruz Island. Marla Daily comments to CINP, October 19, 2019.

925 Bill Ehorn interviewed by Ann Huston, December 6, 2001. Transcript in CINP Archives, Cat. 35833.

926 "Cooperative Agreement between the National Park Service and The Nature Conservancy," finalized January 8, 1991, History Program Files, PWRO Archives, San Francisco, CA.

agreement with the National Park Service helped TNC achieve many of its management objectives, especially those directly related to resource management. However, there were some significant points of difference, the most obvious being the Park Service's long-term goal of acquiring all of Santa Cruz Island. The Conservancy maintained that it had no intention of ever selling the property, principally out of respect for Carey Stanton's wish to keep the island in private ownership.

ACQUIRING EAST SANTA CRUZ ISLAND

On June 29, 1989, Pier Gherini died. This event marked the beginning of the Park Service's long and difficult process of acquiring the 6,200 acres that comprised East Santa Cruz Island. Pier Gherini had held a one-quarter interest in this property, which was divided equally among the four children of Maria and Ambrose Gherini. The two sisters, Ilda McGinness and Marie Ringrose, supported the idea that their island property should be sold to the National Park Service. But Pier and his brother Francis had long resisted efforts by the Park Service to purchase the land. As Pier neared the end of his life, however, he became increasingly willing to let go of East Santa Cruz Island, especially after new environmental laws such as the Coastal Zone Management Act of 1972 made economic development of the property more difficult. These sentiments were shared by Pier's children and when Pier died they agreed to negotiate with the Park Service to sell their father's one-quarter share. The prospect of a substantial inheritance tax amounting to more than $3,000,000 was an additional factor that strongly influenced their decision. This had to be paid within nine months of Pier's death, so it was necessary to consummate the sale quickly if the heirs were to avoid a serious financial burden. Fortunately for the Gherini children, NPS Regional Director Stanley Albright sympathized with their concerns and worked hard to expedite the purchase of their fractional shares of the property. However, several challenges had to be overcome first. One was procedural. The federal government generally avoided buying fractional interests in real property. Subsequent events confirmed the wisdom of this policy, but circumstances at the time seemed to justify making an exception, and the Justice Department accordingly granted one.

The other challenges were primarily fiscal. The Park Service had originally offered $4,500,000 for each fractional interest in East Santa Cruz Island but by 1989 it had only enough money available to buy one of these interests. Ilda McGinness and Marie Ringrose, who had decided to sell their shares as well, agreed to postpone negotiations with the Park Service so that their brother's estate could be settled first and the inheritance tax paid from the proceeds of the sale. But political considerations complicated the sale. Congress had not yet appropriated the funds and opposition in the House Appropriations Subcommittee prevented approval of the original offer. In the end, only $3,875,000 was available. Thomas Gherini, who was acting as executor of the estate, agreed to this sum, which was only slightly more than the amount of the inheritance tax. The sale took place on April 25, 1990. Pier Gherini's children made little or no money, but they did reserve a right of use and occupancy that allowed them to use three small parcels on East Santa Cruz Island for 25 years. The Park Service was then left in the awkward position of being a co-tenant with the three remaining owners of East Santa Cruz Island. What this meant soon became apparent.

Over the next several years, the National Park Service would have little interaction with Ilda McGinness and Marie Ringrose, who together owned half of East Santa Cruz Island. The sisters had little input in its management and were only waiting until the federal government could

appropriate additional funds to buy them out, as it did in 1992. Francis Gherini had long been the most active member of the family in managing East Santa Cruz Island ever since his brother Pier's declining health had forced him to become less involved a decade earlier. Francis Gherini had opposed the sale of his brother's interest to the government. Subsequently, he made little effort to engage the Park Service in any meaningful negotiation to sell his share. When the federal government offered $4,500,000 for each quarter interest, Francis insisted on $5,000,000. Whether he ever really intended to sell at this time is doubtful. The hunting business was doing well, and Francis was earning a substantial profit from his contract with Jaret Owens. Rather than end this lucrative relationship, Francis decided to renew Island Adventure's contract. In December 1990, Francis signed a second three-year extension of Island Adventure Company's original operational agreement. He did this without consulting the other co-tenants of East Santa Cruz Island, one of whom was now the National Park Service.

Relations with Island Adventures

The new operational agreement authorized Jaret Owens to increase the hunt club's recreational offerings and to expand its infrastructure accordingly. One result of this was the construction of additional guest residences at Smugglers Ranch. These were located not far from the Conex shipping container that served as the island ranger station. The increased number of guests soon overwhelmed existing outhouse facilities, and many of the hunters began using the ranger's outhouse, leading to inevitable conflicts. The park eventually reacted to Island Adventures' growth by contacting county and state planning agencies that were responsible for regulating development in the coastal zone. As required by the California Coastal Act of 1976, Santa Barbara County had certified a Local Coastal Plan in 1981 that required a conditional use permit for any commercial activities taking place on the islands. Knowing that Island Adventures lacked such a permit, the park began collecting evidence to document its activities. This included having the island ranger photograph the hunt club's facilities and the comings and goings of its staff and guests. Island Adventures resented these actions, calling them intrusions into private affairs and harassment.[927]

The company eventually obtained permission from the county to continue operating, without having to go through the costly and laborious process of obtaining a permit, after Francis Gherini testified that the hunt club had existed prior to 1981. This qualified Island Adventures for an exception in the county's permitting code that allowed businesses already in existence at the time the Local Coastal Plan was implemented to continue operating without interruption.[928] Island Adventures actually began operating on East Santa Cruz Island late in 1983, but Gherini told county officials that the business was an extension of Pete Peterson's lease, which had been in effect since 1979, and that Jaret Owens had simply taken over Peterson's business. He failed to mention that Peterson had run a sheep ranch, not a hunt club, and that his lease had been

927 This occurred between 1991 and 1992 while John Morgando was acting as Island Adventures' resident caretaker at Smugglers Ranch. At that time Randy Nelson was the NPS ranger on East Santa Cruz Island, since Mark Senning had been transferred to Anacapa Island in the fall of 1989. Written correspondence, John Morgando, January 28, 1997, CINP Archives, Acc. 265, Cat. 6494, Box 7B.

928 "The existing hunt clubs and landing permit systems which are operated by the property owners [on the Channel Islands] shall be allowed to continue at their current levels without permit requirements." County of Santa Barbara, Coastal Land Use Plan (Santa Barbara, CA: The County, 1982 (republished June 2009, 2014 and 2019) 215. Even if the county chose to see Jaret Owens' business as consistent with the spirit of its land use policy, the exemption was meant to apply only so long as existing businesses continued to operate "at their current level," with the implication that a substantial increase in scale would trigger the requirement for a permit. Once Jaret Owens enlarged his operation after signing a contract renewal with Francis Gherini, the Park Service had even stronger reason to justify its complaint that Island Adventures was operating illegally.

abrogated in 1984 in order to allow recreational hunting to replace the historic ranching activities. That this was a misrepresentation of the facts was well-known to many of the parties directly involved, including the Park Service. John Gherini later cited a letter from Francis Gherini to Superintendent Bill Ehorn, dated 1982, which stated that the "owners of the east end of Santa Cruz Island have never desired to have a hunt club and do not now." As John observed, this was substantial proof of Francis' misrepresentation to the county, since it demonstrated the absence of any hunting operation—or even intention of having a hunting operation—during the period of the Peterson tenure. The National Park Service insisted that Island Adventures was operating illegally as an unregulated commercial use in the coastal zone.[929]

Relations between the park and Island Adventures grew increasingly tense over the next few years with periodic incidents exacerbating the situation. Most of these were minor when considered by themselves. For example, on one occasion in 1991, a ranger confronted Duane Owens and accused him of misusing Park Service property for commercial purposes related to Island Adventures. The property in question was the ATV that previous superintendent Bill Ehorn had allowed Owens to operate for patrol purposes on a volunteer basis. Owens indignantly denied the accusation but agreed to stop using the vehicle.[930] Within the larger context of bad feelings that had come to prevail since Ehorn had left, Owens interpreted this and other similar confrontations as part of a pattern of harassment designed to drive Island Adventures out of business. These suspicions appeared to be confirmed by an internal park memorandum written earlier that year which Jaret Owens mysteriously obtained. Owens interpreted this memo from Superintendent Mack Shaver as explicit instructions to park staff to "aggressively interfere" with Island Adventures. The actual memo was a formal questionnaire from the western regional budget officer. In response to the officer's question, "Have there been problems in holding an undivided interest in the property [East Santa Cruz Island]?" Shaver had written "yes" and stated that Jaret Owens was damaging the island by "misuse and substandard maintenance of historic buildings."[931] But he also added that the present arrangement was satisfactory for the short term.

Shaver then listed various responsibilities that the Park Service would have to honor if it was to manage East Santa Cruz Island as a national park. These included the removal of feral animals, allowing visitation without charge and without ranger escort, elimination of sport and commercial hunting, and provision of accommodations and transportation only by a park-approved concessioner. All of these items were in accordance with established NPS management policies and were being violated under the co-tenancy arrangement. "If unspecified interest ownership is to continue for a longer time," Shaver concluded, "resource protection and visitor access can only be accomplished by the National Park Service taking a more aggressive role in exercising management responsibility, even if legal action by another co-tenant is prompted." This was really a statement of fact rather than a call to arms and pointed to an essential weakness in the co-tenancy agreement. How could essentially incompatible interests existing between two equal co-tenants be resolved? Francis Gherini's desire to lease the property to a commercial hunt club conflicted directly with the Park Service's obligation to manage its share of the property as a national park.

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929 John Gherini to Rep. Walter Capps, April 7, 1997, CINP Archives, Acc. 265, Cat. 6494, Box 7B.

930 Written correspondence, Duane Owens and Jaret Owens to Rep. Robert Lagomarsino, November 13, 1992, Ibid.

931 Superintendent of CINP to Budget Officer, NPS Western Region, March 26, 1991, Ibid.

The issue was not with Island Adventures but with Francis Gherini, while Jaret and Duane Owens were simply caught in the middle. Regional Director Stanley Albright summed up the situation in a letter to Congressman Robert Lagomarsino:

> *... escalation of use, new structures and alterations to historic buildings without the three owners' approval creates stress between island residents. The Owens' frustration at the tenuousness of their right to operate on the island is understandable. They have no ownership interest in lands or property and are solely the agent of co-owner Francis Gherini, operating under a limited permit, signed by only one co-owner."*[932]

As this suggests, the more aggressive role intimated by Superintendent Shaver referred to the park's relationship with Francis Gherini, not with the Owens's, while the threat of legal action reflected the real, and ultimately justified, suspicion that Gherini would take the matter into the courts for resolution if the park insisted too strongly on its rights as co-tenant. Despite Shaver's statement, the Park Service was reluctant to do this, fearing that a judge would simply divide East Santa Cruz Island into four equal parts much as the court had done with the heirs of Justinian Caire in 1925. This might resolve the immediate source of conflict, but it would leave the Park Service in only a slightly better position to manage its responsibilities on the island.

Although relations with Francis Gherini remained the park's chief concern, this was not always obvious from the way events played out on East Santa Cruz Island, where this problematic co-tenancy led to increasingly hostile interactions between park staff and Island Adventures. Late in 1991, an incident occurred that proved to be a turning point in the park's relationship with the hunt club. Tim Setnicka visited East Santa Cruz Island with other staff members and Pier Gherini's two sons, John and Thomas. They were warmly hosted by Duane Owens at Scorpion Ranch, but on the second day of their tour, the group drove out to Smugglers where the hunting operation was based. On arriving there, Setnicka noticed a new outhouse not far from the NPS ranger station. Jaret Owens had purchased this structure and had it installed in response to the park's earlier complaints about his guests using the ranger's outhouse. For reasons unknown, Setnicka assumed that the new structure was NPS property and that Owens had stolen it. Flying into a rage, he kicked the building over and filled the recently-excavated pit underneath it.[933] He then arranged for a helicopter to airlift the building to Anacapa Island. Setnicka soon realized his error, and the park issued a formal apology to Island Adventures, but instead of returning the outhouse to East Santa Cruz Island, it was shipped to the mainland on a park boat, where Owens was told he could claim the now-infamous flying outhouse. This ungracious response by Setnicka provided an ominous sign of the growing personalization of the conflict. Jaret Owens reacted to this and other recent frustrations by writing to Congressman Robert Lagomarsino and describing in detail the deterioration of affairs between himself and the park since the departure of Superintendent Bill Ehorn. It was this letter that referenced the memorandum from Superintendent Shaver that Owens interpreted as harassment.[934]

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932 NPS Regional Director Stanley Albright to Representative Robert Lagomarsino, December 9, 1992, Ibid.

933 Don Morris interviewed by Timothy Babalis, August 8, 2009. Transcript on file in CINP Archives.

934 Owens to Rep. Robert Lagomarsino, November 13, 1992, CINP Archives, Acc. 265, Cat. No. 6494, Box 7B; Earl Whetsell interviewed by Timothy Babalis, August 10, 2009. Transcript on file in CINP Archives. Whetsell was a personal friend of Jaret Owens

A Legislative Taking

In 1992, Congress finally appropriated $12,000,000 to purchase the remaining three fractional interests in East Santa Cruz Island, valuing each at $4,000,000 based on a government appraisal made the previous year. Marie Ringrose and Ilda McGinness believed this was fair and sold their respective interests to the National Park Service in December of that year. They were both in their 80s by that time and neither was interested in retaining a reserved right, but these were nonetheless included in their deeds. Each right was valued at only $7,500 and entitled the sisters, like the children of Pier Gherini, to enjoy an exclusive private use of the reserved portion of East Santa Cruz Island for a period of 25 years. Neither sister took advantage of the rights nor ever expressed an interest in doing so. Francis Gherini rejected the government offer, believing it was too little. The National Park Service now owned a majority three-quarter interest in East Santa Cruz Island. This would, it seemed, improve the park's ability to implement NPS management policies on the island, but in fact little changed. Island Adventures continued to operate as before, while Francis Gherini remained intransigent in the face of every Park Service attempt to improve public access and resource protection. This may have stemmed from his desire to settle the estate through condemnation, because he believed he could obtain the greatest profit from this procedure. He had already made such a proposal at the time his brother's estate was sold but had gotten no political support to introduce the necessary legislation.[935]

After four more years of mounting tension between the park and Island Adventures, this strategy began to seem like the only reasonable course of action. During the Senate hearing for the bill to create Channel Islands National Park, held on July 19, 1979, NPS Director William Whalen promised not to condemn the property of "all the landowners, with the exception of the Gherini property."[936] A condemnation, or legislative taking, would allow the federal government to seize the remaining private property and transfer it to the public domain with due compensation to the private landowner. Congress needed to implement the procedure through enactment of a bill, but condemnations were politically unpopular and rarely occurred.[937] Under the circumstances, however, a legislative taking seemed advantageous to all interested parties except Island Adventures. In 1996, Tim Setnicka approached Congresswoman Andrea Seastrand (R-Santa Barbara) to ask for her support. Setnicka, who was acting superintendent following Mack Shaver's retirement, invited the congresswoman to visit East Santa Cruz Island to convince her of the value of the property and the impossibility of continuing under the current co-tenancy arrangement. Seastrand concurred on both points and agreed to sponsor the necessary bill. She introduced it to the House on September 11, 1996, as H.R. 4059.

There was not a little irony in Congresswoman Seastrand's role, given her reputation as a conservative supporter of private property rights, but Seastrand wanted the longstanding conflict resolved and believed that her bill would adequately preserve the value of Francis

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and tried to warn him of the precarious nature of his position as Francis Gherini's tenant, with no financial or legal security if things went bad, as they ultimately did. The opinion that Jaret Owens was being used by Francis Gherini was also expressed by Chief Ranger Jack Fitzgerald in an interview by Timothy Babalis on August 5, 2009. Transcript on file in CINP Archives.

935 John Gherini to Walter Capps, April 7, 1997, CINP Archives, Acc. 265, Cat. No. 6494, Box 7B.

936 "Hearing before the Subcommittee on Parks, Recreation, and Renewable Resource of the Committee on Energy and Natural Resources, US Senate, 96th Congress, 1st Session, on S.1104," July 19, 1979.

937 The most recent had taken place in 1988, when the government seized a private inholding within Manassas National Historic Battlefield, where the owner was proposing to develop a shopping mall.

Gherini's interest. He retained attorney and former Secretary of the Interior William P. Clark during the Ronald Reagan administration, to help him negotiate the terms of his compensation. This was to be based on fair market value, as determined by a mutually agreed appraisal. If no agreement could be reached after one year, the matter would be turned over to the courts for a judge to decide. Seastrand's bill would also ensure that Gherini retained a reserved right similar to those that his siblings had received.[938] Ordinarily, a reserved right could only be established through a negotiated settlement, as it had with the sale of Pier Gherini's interest, not through a legislative taking. By introducing this clause into her bill, Seastrand allowed an important exception to legal precedent on behalf of Francis Gherini. This additional concession was crucial to Seastrand's support of the legislation, because it would allow Gherini to continue using the property on East Santa Cruz Island for another 25 years and appeared to preserve many of the privileges he already enjoyed for the duration of his life.

Congresswoman Seastrand's bill, H.R. 4059, successfully reported out of committee later that month. However, by the time it reached the House floor, the RUO that Francis had insisted on was gone. Seastrand was surprised and dismayed by this unexpected development, but at the end of that year she was replaced by Democrat Walter Capps, and there was nothing more she could do except to wish that her successor would restore Francis Gherini's RUO through further legislation. Gherini himself reacted to the deletion as soon as he discovered it by deeding an undivided 1% of his interest to the Santa Cruz Island Foundation, the nonprofit that Carey Stanton had established to preserve and promote the historical legacy of Santa Cruz Island. This gift deed contained an unusual clause reserving to Francis Gherini and "his heirs a nonexclusive easement in gross, with the unrestricted right of use and occupancy for all recreational purposes over, under, through and across the entirety of said property." In other words, it contained the same reserved right that had been deleted from Seastrand's original bill. Gherini vainly hoped that this maneuver would preserve his right by simply transferring it to another co-tenant. It did not. Publicly, Gherini justified his action by claiming that the gift deed was made because he wanted SCIF to be actively involved in the management of East Santa Cruz Island to provide oversight over the Park Service, which he did not trust. "I don't think the Park Service can do anything right and they are proving it every day," he stated in an interview with a local reporter.[939]

Once H.R. 4059 reported out of committee, there was little chance that any further modifications would be made, because it was incorporated into the larger and more complex Omnibus Parks Bill, H.R. 4236. This bill contained numerous park-related proposals from around the country, many of which were high-profile and hotly contested. It included 17 proposals in California alone, one of which would transfer the U.S. Army's surplus Presidio of San Francisco to the National Park Service and establish the Presidio Trust, an unprecedented US government corporation charged with making the proposed park financially self-sufficient by 2013. California's Democratic Congresswoman Nancy Pelosi had been working on the Presidio bill for seven years by this time, and much of the attention among California's representatives was absorbed by this issue. Though supported by the majority of Congress, the Omnibus Parks Bill was nevertheless in danger of failing in the Senate after the majority leader, Republican Trent

938 William Clark was an old friend of Francis Gherini and had first been retained by Francis in 1989 to represent him in negotiations with the NPS (during the sale of Pier Gherini's share of the property). Clark had served as Secretary of the Interior under President Reagan from 1983 to 1985. Francis Gherini was primarily represented by attorney Roger Sullivan from 1984 through the conclusion of the condemnation trial.

939 "Gherini, Park Service still feuding," *Santa Barbara News-Press*, March 20, 1997.

Lott, established rules requiring a unanimous vote. This allowed Republican Senator Frank Murkowski of Alaska to hold the entire resolution hostage by refusing his support over the omission of a clause that would allow increased logging in Alaska's Tongass National Forest. In the frantic negotiations to reach a compromise, there was little opportunity to address less significant details, and the terms of the edited Seastrand bill remained unchanged.

Congress passed H.R. 4236 at the last minute on October 3, 1996. President William Clinton signed it into law on November 12 as Public Law 104-333.[940] It amended section 202 of the Channel Islands Park Act to allow condemnation of the remaining private interest in East Santa Cruz Island, effective 90 days after Clinton's signature. That date occurred on February 10, 1997.[941] In effect, this legislatively "took" all rights, title and interest to the Gherini Ranch except those reserved to the heirs of Pier Gherini. In addition to denying any reservation of use and occupancy to Francis Gherini, the condemnation also abolished the reserved rights of his sisters, Marie Ringrose and Ilda McGinness, though this appears to have been unintentional. It was not discovered until later when Francis Gherini attempted to reassert his sisters' rights to bolster his own claims.[942] The problem was legally resolved by compensating the two women the monetary value associated with their abrogated rights. This obviated the need to amend the legislation and possibly give Francis Gherini the opportunity to insert a reserved right for himself. This ended the debate over reserved rights, but the monetary compensation for Francis Gherini's interest still had to be determined and would depend on the appraised value of the property. The federal government was prevented by law from paying more than this amount, but Francis Gherini could still challenge the appraisal that the government proposed.

Meanwhile, a drama of an entirely different nature was beginning to unfold on East Santa Cruz Island with the implementation of a covert law enforcement investigation of Island Adventures. This had originated in 1995 after former Island Adventures employee Paul Starbard contacted Julie Tumamait-Stenslie, an Ojai resident of Island Chumash descent, and told her about having seen a large collection of American Indian artifacts, including skeletal remains, at Scorpion Ranch while he was working for the Owens's during the 1980s. He had last worked for Island Adventures in 1986. Starbard stated that it was not uncommon for the guides to help guests who showed or expressed an interest in American Indian artifacts and remains to help locate and remove these items. He remembered Duane Owens showing him a cargo container filled with these objects, which had been gathered on the island. He also claimed that at least one of the hunt guests, an acquaintance of his, was selling the artifacts to foreign collectors.[943] Alarmed by this information, Tumamait-Stenslie contacted Channel Islands Chief Ranger Jack Fitzgerald.[944] Fitzgerald and a park ranger tape-recorded an interview with Starbard who provided sufficient evidence for the park to initiate a formal investigation. At the chief ranger's request, NPS special agents Todd Swain from Joshua Tree National Park and Jeff Sullivan from Yosemite National Park visited East Santa Cruz Island posing as clients of Island Adventures for a two-day

940 Gebe Martinez, "A Park Bill That Was No Walk in the Park," *Los Angeles Times*, October 4, 1996.

941 Public Law 104-333 also named the park's visitor center in Ventura after Congressman Robert J. Lagomarsino. The bill was introduced by Rep. Elton W. Gallegly (R.-Simi Valley).

942 John Gherini to Walter Capps, April 7, 1997, CINP Archives, Acc. 265, Cat. No. 6494, Box 7B.

943 Starbard was deeply upset by these activities, which he considered a desecration of Native American culture. That is why he spoke openly about the matter to Chumash tribal members. The acquaintance was eventually prosecuted for his activities by the Ventura County District Attorney's Office. *Santa Barbara News-Press*, January 22, 1997.

944 Nick Welsh, "The Taking of Santa Cruz Island," *The Independent* (Santa Barbara), April 17. 1997.

hunting trip in August of that year. The two agents passed themselves off as wealthy "high rollers" interested in hunting, spear-fishing, and collecting American Indian artifacts to decorate their homes. They visited the island two more times over the next few months, gathering evidence that would later be used to charge the hunt club and its owners with multiple violations of the Archaeological Resources Protection Act of 1979 (ARPA) (93 Stat. 721).

The Prosecution of Island Adventures

On September 29, 1996, even as the Omnibus Parks Bill was being hotly debated in the Senate, NPS special agents Swain and Sullivan returned to East Santa Cruz Island, again posing as clients of Island Adventures. This time the agents convinced guide Brian Krantz to show them a Chumash burial site that he had recently discovered near the airstrip. Krantz proceeded to excavate the site for Swain and Sullivan and offered the two men several bone fragments, later identified as belonging to a young woman who had lived approximately 1,800 years ago. Unknown to Krantz, the agents were recording the entire exchange using a concealed tape-recorder. As the recording later demonstrated, Krantz was aware of the illegal nature of what he was doing. He also understood that disturbing and removing artifacts from a burial site was considered a desecration by American Indians and would be strongly resented by surviving descendants of the Island Chumash. Later, while everyone was relaxing back at Smugglers Ranch, Krantz and some of the other guides joked contemptuously about the Park Service. Although this behavior was understandable, given the uneasy relationship that had developed between Island Adventures and the park over the previous few years, the undercover agents were nonetheless alarmed by the violent implications of the guides' comments, which included shooting a ranger and pinning him with a hog tag. While Swain and Sullivan laughed along with everyone else that evening, they took note of these remarks and treated them seriously, believing they were cause for greater caution in the future.

Two months later, on December 16, the two undercover rangers returned for a third visit to East Santa Cruz Island, but Brian Krantz had discovered he was under investigation and left the island just prior to their arrival. He had been tipped off by an NPS ranger who was close to members of the hunt club and objected to the investigation that she knew was underway. That ranger's law enforcement commission was revoked for endangering the lives of her colleagues and other inappropriate actions.[945] With the undercover operation compromised, the Park Service decided to act quickly based on the information it had already acquired through agents Swain and Sullivan. Search and arrest warrants were obtained for Brian Krantz and two other Island Adventures guides from Santa Barbara Superior Court Judge Patrick McMahon. A search warrant was also obtained for Jaret Owens. These were only valid until January 16, 1997, leaving the rangers only a month to execute them, with the holidays intervening. To prevent the destruction of evidence by Island Adventures employees, it was necessary to arrive on East Santa Cruz Island without prior warning. Given the threats that had been made, or implied, by Island Adventures guides, the park rangers were very concerned about having sufficient manpower to prevent a violent incident. They therefore contacted the Santa Barbara County Sheriff's Department, which agreed to provide a special operations team, bringing the number of law enforcement officers available to execute the warrants to 20. This seemed a reasonable deterrent given the number of clients who might also be on the island in addition to Island

945 Ian Williams, conversation with Timothy Babalis, August 4, 2009; Jack Fitzgerald, conversation with Timothy Babalis, August 5, 2009; Jack Fitzgerald, interview with Ann Huston, October 9, 2019.

Adventures staff. All of these clients would, of course, be armed, further increasing the risk to all parties if a hostile confrontation were to result.

This combined law enforcement team was ready to go by early January, but stormy weather caused them to delay. The team planned to use a helicopter and to arrive at dawn, landing first at Scorpion Ranch with half the officers and then at Smugglers Ranch with the other half. Both of the private companies with which the park usually contracted, Channel Islands Aviation and Aspen Helicopters, were on friendly terms with Jaret Owens, and the pilots could be expected to contact Island Adventures if they suspected anything unusual. This would destroy the element of surprise the rangers were depending on to preserve evidence and prevent their suspects from fleeing. The rangers therefore sought other government agencies in the area that had aircraft capable of performing the mission. As it turned out, the U.S. Customs Service had a Blackhawk (H-60) helicopter, which was over-water certified and large enough to convey all of the officers to East Santa Cruz Island. The Customs Service was willing to provide this helicopter to the Park Service. This seemed to be the most practical and possibly the only choice available at that time. Critics later accused the Park Service of unnecessary provocation by using a military-style helicopter in a civilian arrest; however, helicopter operations were standard procedure for this type of law enforcement action.[946]

On the morning of January 14, 1997, NPS rangers and county sheriff's department deputies from the special operations division flew to East Santa Cruz Island. At that time, the company was hosting about 40 hunters, most of whom were black powder enthusiasts who hunted with antique muzzle-loading flintlocks. Some were bow hunters. The borrowed US Customs Service helicopter first landed 10 rangers and sheriff's deputies at Scorpion Ranch, then returned to pick up nine other rangers and deputies and transported them to Smugglers. At the latter site, when the law enforcement team arrived late in the morning on a cold and rainy day, two of the Island Adventures staff ventured down the muddy path to greet them with a thermos of hot tea, still unaware of the purpose of the rangers' visit. They were surprised when they encountered the group of officers dressed SWAT-style, wearing body armor and wielding AR-15 assault rifles. According to witnesses, at least one of the officers wore a ski mask. Both clients and employees were handcuffed and detained while the officers carried out their search warrants. One of the detained clients was a 15-year-old girl who was napping in her bunk at the time. Critics later claimed that she was rousted out of her bed in the middle of the night and made to lie face-down on the ground for hours. NPS records show that the event took place about 11:30 a.m., and she was held in this position for no more than 30 minutes.

Guides Brian Krantz, Dave Mills, and Rick Berg were arrested on suspicion of disturbing American Indian burial sites. Rangers confiscated evidence comprising some 900 artifacts, loaded the evidence into the helicopter, and transported it back to the mainland. However, when the officers attempted to load the three suspects into the Customs Service helicopter as well, they were informed by the pilot that he was not allowed to transport persons under criminal arrest. This forced the park to hire two private helicopters at the last minute to convey Krantz, Mills, and Berg, along with their arresting officers. While these helicopters were on the way, their pilots radioed friends on the mainland to describe what they had seen and to ask what was happening.

946 Kent Bullard, interviewed by Timothy Babalis, June 29, 2009. Recording on file in CINP Archives; Jack Fitzgerald interviewed by Ann Huston, October 9, 2019.

Before long, news of the incident spread throughout the coastal communities of Southern California, and the arrest became a media event almost before the helicopters touched down.[947]

One day after the raid on East Santa Cruz Island, law enforcement officers searched Island Adventures owner Jaret Owens' home in Ojai. The Park Service knew that Owens, as owner of the business, was responsible for the actions of his guides and suspected that he might have been involved in removing American Indian cultural materials. The National Park Service issued Owens a Notice of Violation of the Archaeological Resources Protection Act, to which Owens responded, denying these allegations. He claimed to the press that he was familiar with NPS policy and federal law concerning archeological resources and repeatedly informed his employees about the importance of leaving American Indian sites undisturbed. Chief Ranger Fitzgerald answered that the prosecution never found any evidence that he had warned his employees.[948] The government ultimately declined to proceed with his prosecution. One inadvertent discovery that the officers made while searching Owens' home had no evidentiary bearing on the case, but it proved an omen of the trouble that the Park Service would shortly face over its handling of the arrests. This was a fax from a prominent businessman who owned a chain of national newspapers, one of which was located nearby. This newspaperman was also a regular guest of Island Adventures and a personal friend of Jaret Owens. His fax, still warm in the machine when the officers entered, promised to create a media sensation in support of Island Adventures and critical of the National Park Service. The extraordinary prominence that the arrest on East Santa Cruz Island and the subsequent trial and conviction of Brian Krantz assumed in the press over the next few months showed that the threat was far from idle.[949]

The political response to these arrests was less vituperative than the media's but critical nonetheless. Congressmen Elton Gallegly of Simi Valley and Walter Capps of Santa Barbara both sent letters to NPS Director Roger Kennedy expressing concern after hearing complaints from many of their constituents. Congressman Robert Lagomarsino also objected to the "commando-style" raid. Everyone seemed suspicious that the arrests were somehow related to the condemnation proceedings against Francis Gherini. This was inevitable, given that the raid occurred only three weeks before the termination of Francis' tenure. The park denied these allegations, pointing out that the undercover investigation had been initiated nearly two years before the condemnation was scheduled to take effect.[950] But this placed the beginning of the investigation after negotiations with Francis Gherini had already broken down twice and relations with Island Adventures were at their lowest ebb. These coincidences fed the cynical assumptions of critics, as reflected by one headline that appeared in the *San Diego Daily Transcript* on February 11, 1997, one day after the transfer of Francis Gherini's property to the Park Service, "Calif. Island Raided, Seized for Use as National Park." Reflecting on the criticism the agency received, archeologist Don Morris later suggested that Setnicka's failure to hold a

947 Tim Setnicka to Friends of Channel Islands National Park, February 11, 1997, CINP Archives, Acc. 265, Cat. 6494, Box 7A; Michael Parrish, "This is the Park Service: Come Out With Your Hands Up," *Outside*, May, 1997, 27-28.

948 Coll Metcalfe, "Hunting Firm Owner Denies Taking Relics," *Los Angeles Times*, Jan. 17, 1997; Jack Fitzgerald interviewed by Ann Huston, October 9, 2019.

949 Personal communication with NPS law enforcement officers involved in the search of Jaret Owens' home by Timothy Babalis, August 5, 2009.

950 Jack Fitzgerald interview, October 9, 2019.

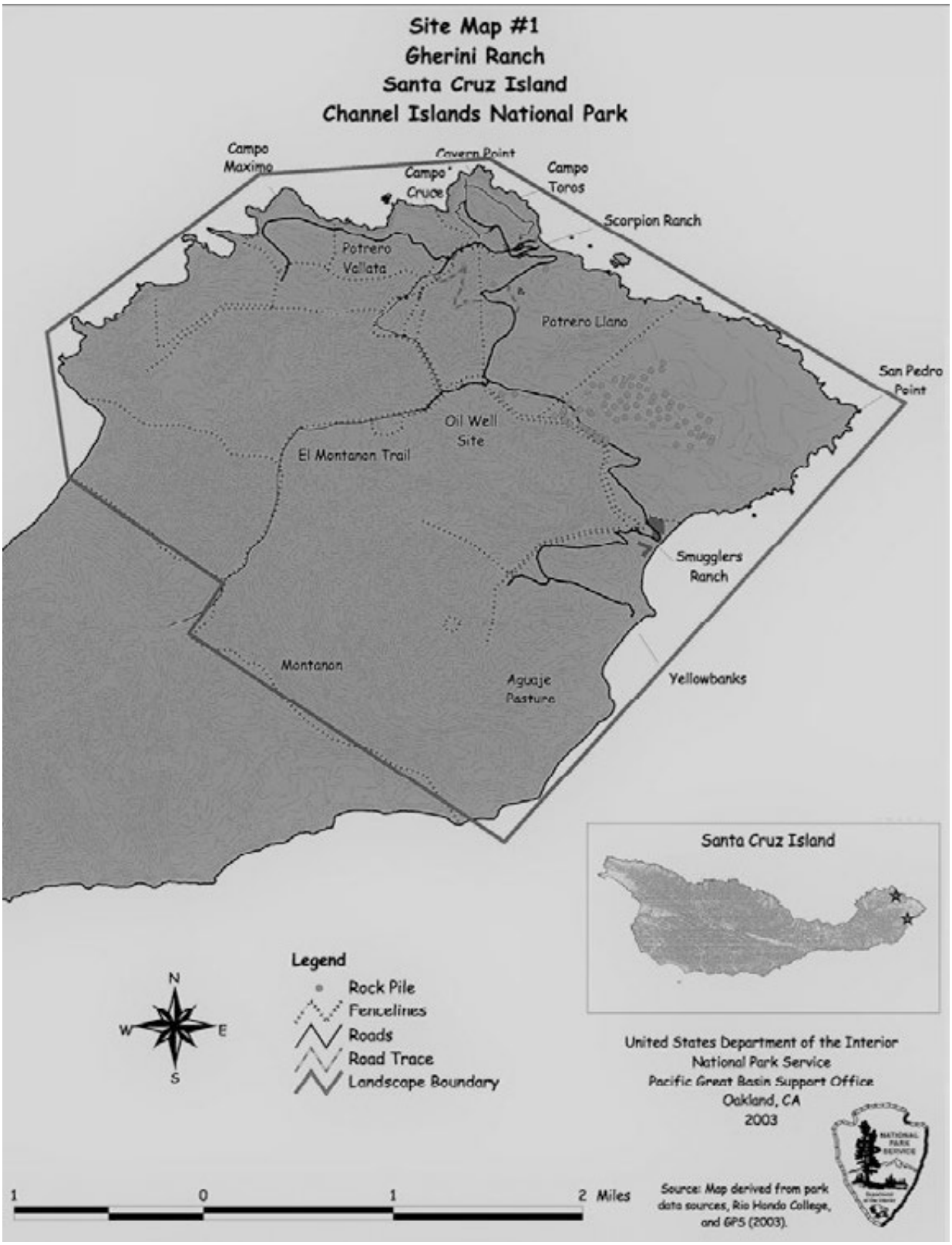
press conference to explain the park's actions contributed to the park's bad image and aided park detractors.[951]

Francis Gherini took advantage of the park's damaged reputation by filing a federal lawsuit attempting to enjoin the National Park Service from taking immediate possession of East Santa Cruz Island.[952] Francis argued that the government could not take his property without first depositing the funds required to compensate him. Francis also insisted, once again, that he and his heirs be granted a reservation of use and occupancy. On February 7, 1997, United States District Judge George H. King denied both of these claims and dismissed Gherini's suit.[953] Three days later, his share formally reverted to the National Park Service, which now became the sole owner of East Santa Cruz Island. Francis Gherini and his lessee, Island Adventures, had 90 days, until May 11, to vacate. Island Adventures chose to cease operations right away and hosted one final hunt over the remaining weekend before the effective date of the condemnation. The company invited approximately 30 hunters to come out to the island. By a bizarre coincidence, The Nature Conservancy brought a team of professional hunters out that same weekend to continue with the Conservancy's ongoing extermination of sheep from Carey Stanton's old lands. The TNC hunters happened to be working at that time on the isthmus, in the region known as "No Man's Land" that bordered the NPS property. This brought them into proximity with Island Adventures, whose guests were able to witness the Conservancy hunters from a good vantage point. Although the Island Adventures people were also out to kill sheep, they were doing it for sport and were appalled at the business-like efficiency of their professional counterparts.

951 Don Morris interviewed by Timothy Babalis, August 8, 2009. Transcript in CINP Archives.

952 *Francis Gherini v. United States et al.*, CV97-0819, United States.

953 John Gherini letter in *Ventura County Star*, February 8, 1997.



Map 8-1. The portion of Eastern Santa Cruz Island owned by the Gherinis. "Caire Gherini Ranch Historic District, Channel Islands National Park, "NPS Cultural Landscapes Inventory, 2003, Part 1, Page 9 of 24.

Source: Cartography by Rockne Rudolph, Channel Islands National Park.

Island Adventures guest Jack Ku later described the grisly scene for the press: "I saw them just hitting the herd and shooting them. I saw the babies lying next to the [dead] moms ... screaming 'baa, baa.'" His comments drew the attention of animal rights supporters who overlooked the fact that Ku was also shooting sheep that day.[954] In response to the publicity that these testimonials aroused, the director of the Ventura County Animal Regulation Department contacted the park and asked Superintendent Setnicka to intervene. Setnicka agreed to contact TNC and request that it halt the killing for the time being. But Diane Elfstrom Devine, the program manager for TNC's Santa Cruz Island Preserve, defended the sheep eradication plan and refused to curtail or modify the culling. Since TNC was a private organization, killing privately owned domestic sheep on its own property, there was little that could be done. In frustration, animal rights advocates then attacked the National Park Service for providing transportation to the Conservancy's hunters, but park spokesperson Carol Spears claimed that NPS employees had no knowledge of what the hunters intended to do when they brought them out to the island on the park's boat. Sharing transportation resources was common practice among NPS and TNC staff. This unexpected attention would later affect the park's own plans to remove domestic livestock, including the feral sheep, from East Santa Cruz Island.

As these events were taking place, lawyers were preparing for the trial of the three guides arrested on East Santa Cruz Island. Court dates were set for June 1997, but at the beginning of that month defendants Rick Berg and Dave Mills both pleaded guilty to misdemeanor violations of killing or wounding domestic animals while hunting. They had originally been charged with operating as commercial hunting guides without licenses, but accepted this lesser charge of violating the state game code to avoid a potentially lengthy and expensive trial. They were each fined $250.00 and released.[955]

The case against Brian Krantz was far more serious because he was charged with a felony violation of willfully obtaining American Indian burial remains in addition to several misdemeanor violations. Fitzgerald elected to prosecute Krantz under the state law, which prohibited the disturbance of American Indian human remains on public and private lands, rather than the federal law that only protected federal lands, as Francis Gherini still owned a quarter-interest in East Santa Cruz Island at the time of the arrest. This was the first prosecution in the state under this statute. Krantz's trial date was scheduled for June 16 but was postponed two months due to health problems suffered by Judge Ronald Stevens. The trial did not begin until August 19 and lasted for three weeks. Santa Barbara County Deputy District Attorney Darryl Perlin prosecuted the case. His opening remarks were noteworthy for their historic sweep: "This case began 11,000 years ago..." With this, Perlin went on to describe for the jury the long background of Chumash life and culture on Santa Cruz Island, humanizing the bones that Krantz had uncovered and giving them a personal context. Chumash tribal member Julie Tumamait-Stenslie also testified on the first day of the trial, describing her people's cultural beliefs, burial customs, and ceremonies.[956] This statement and Perlin's poetic introduction were followed by a more formal testimony from Dr. John Johnson, curator of anthropology at the Santa Barbara Museum of Natural History and an expert in Island Chumash archeology. Johnson

954 T. J. Sullivan, "Sheep Killing on Island Upsets Last Bow Hunters," *Ventura County Star*, February 11, 1997.

955 Dave Mills was later employed for several years as a maintenance worker at the park. He then went to work for the US Navy, maintaining the Navy tracking station on the ridge of the isthmus on Santa Cruz Island, where he continues to work in 2019.

956 "Unearthing the Truth," *Santa Barbara News-Press*, August 21, 1997; Jack Fitzgerald interviewed by Ann Huston, October 9, 2019.

provided scientific authority for the prosecution's claim concerning the significance of the disinterred bones and the gravity of the offense that had been committed by disturbing them.

The defense, represented by attorney Steve Balash, tried to counter these assertions by arguing that the bones had not been taken from a burial site but had been haphazardly deposited in their present location by floods or road building activities. The site lay not far from an unpaved airstrip. But Dr. Johnson insisted that the integrity of the relationship among the component artifacts proved that the deposit was, in fact, an intact burial site. The defense also argued that the NPS action was linked to the ongoing dispute with Francis Gherini and the park's desire to gain control over his portion of East Santa Cruz Island. This allegation, which was suspected by members of the general public, implied that Krantz was being used as a scapegoat to tarnish the reputation of Island Adventures, and indirectly that of Francis Gherini, to facilitate the removal of both the tenant and the owner. But these allegations proved irrelevant after hearing the taped evidence provided by undercover agents Todd Swain and Jeffrey Sullivan, which demonstrated beyond any doubt that Brian Krantz knew, or believed, that the bones he had disinterred came from an American Indian burial and not from a random scattering of artifacts. Even more importantly, Krantz indicated that he understood the scientific significance of the site to archeologists and its cultural significance to the Chumash. It was also clear that Krantz knew what he was doing was illegal. This proved more than sufficient to indict Krantz, and he was found guilty on September 5, 1997.[957] Judge Stevens ultimately sentenced Brian Krantz to three years of probation and 250 hours of community service.[958]

Shortly after this trial had concluded, a new discovery came to light that caused the park considerable embarrassment. Jaret Owens, seething with resentment for the treatment he and his business had received from the Park Service, brought it to the attention of the press. He claimed that a park maintenance crew had disturbed an archeological site while conducting an excavation at the toe of the hill behind the Scorpion Ranch adobe in the fall of 1996. This was done to remove soil that had built up along the rear wall of the ranch house in order to relieve pressure on the wall and to prevent moisture from degrading the historic masonry structure. During the excavation, the operator also removed soil from the vertical face of the hillside behind the adobe, exposing intact midden deposits that nobody had previously suspected. The operator stopped work as soon as he encountered this material and consulted Superintendent Setnicka. Eager to get the job done, Setnicka ordered the work to continue, and the waste material, including the midden contents, was spread on a nearby beach. Owens claimed to have been present and witnessed the operation. After word of the incident got out, Park Archeologist Don Morris inspected the site and confirmed that the backhoe had, in fact, cut through and damaged an intact, well-consolidated midden. Morris secured money for consulting archeologist Marc Linder to evaluate the disturbed site. He posited that it dated to 2,500 years earlier.[959]

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957 The actual charges for which he was convicted were (1) Felony violation, willfully obtaining Native American human remains from a grave after January 1, 1988 (California Public Resources Code, sec. 5097.99(b); (2) Misdemeanor violation, taking a migratory bird (a raven); and (3) Misdemeanor violation, willful injury to an object of archeological interest.

958 Jack Fitzgerald interviewed by Timothy Babalis, August 5, 2009; Nick Welsh, "Hunting Guide Krantz Digs His Own Grave," *The Independent*, Sept. 11, 1997; *Santa Barbara News-Press*, Sept. 6, 1997; *The Independent*, Nov. 13, 1997.

959 Don Morris comments to Lary Dilsaver, August 16, 2019; Chuck Schultz, "Controversy Unearthed," *Santa Barbara News-Press*, March 1, 1997.

Many who were angered by the NPS raid on Island Adventures saw the Scorpion ranch house incident as evidence of the park's hypocrisy.[960] Jaret Owens' attorney, David Lederer, formally requested an investigation by the California Coastal Commission. Nothing resulted from that request. But the Park Service had clearly violated its own laws and policy, and the timing of the debacle could not have been worse, coming as it did almost simultaneously with the investigation and arrest of Brian Krantz and his colleagues. Don Morris later suggested that the park probably caused greater damage to archeological resources than the Island Adventures guides who had collected individual artifacts but did not damage an entire site.[961] The blame fell squarely on Setnicka who was not only responsible for ensuring that his staff adhered to NPS policy, but in this case actually made the critical decision to circumvent that policy. The matter seemed to illustrate an aspect of Tim Setnicka's personal character that was both his strength and weakness as a superintendent—his desire to get a job done as quickly and effectively as possible and his impatience with any bureaucratic protocol that prevented him from doing so. Some among his staff admired Setnicka's ability to think quickly and act decisively, but, as this incident demonstrated, his boldness also could have destructive and embarrassing consequences.

There would be other complaints about the park's handling of the affair with Island Adventures. Owens claimed that most of the artifacts recovered from Smugglers Ranch had originated with legitimate archeological research done by University of California Professor Ron Olsen in 1926. He insisted that these items had been boxed up by the university and returned to Ambrose Gherini many years before Island Adventures arrived on East Santa Cruz Island. Some of these artifacts remained in their original boxes while others, according to Owens, were unpacked and displayed in the ranch house, where the park rangers found them.[962] The fact that the prosecution never used these artifacts as evidence during the trial suggested to many people the validity of Owens' claim. But the park itself maintained that this material was not used only because the provenience of the items could not be proven. Some of the artifacts may have originated with Ron Olsen's research and some of them may have been illegally obtained by Island Adventures staff, but there was no way to distinguish one from the other. Park rangers continued to believe that at least some of the artifacts fell into the latter category and to suspect that Owens had collected them for the purposes of trafficking. Critics of the National Park Service believed that all of the artifacts were collected legitimately.[963]

Restoring an Ancient Ancestor

The Chumash had the greatest personal interest in the investigation and subsequent conviction of Brian Krantz because the bones he had disturbed belonged to a Chumash ancestor. Tribal leaders were contacted immediately after the raid on East Santa Cruz Island and informed of what had happened. Many Chumash applauded the National Park Service for its actions, but others criticized the agency for not involving them sooner. When the park hosted a public

960 The most outspoken critic was Andre Barclay, a ranch manager from Carpenteria. Barclay began writing an inflammatory blog on the Internet, harshly condemning the park on numerous charges. While there was little merit to most of Barclay's allegations, the park nonetheless invited this reaction through its less-than-professional performance. Andre Barclay's website (http://www.west.net/~abarclay/) is no longer active, but copies of the letters and comments he posted there were collected and archived by the park. CINP Archives, Acc. 265, Cat. 6494, Box 7B.

961 This was the opinion of archeologist Don Morris in his interview with Timothy Babalis, August 8, 2009.

962 Island Adventures to Friends of Channel Islands National Park, February 13, 1997, CINP Archives, Acc. 265, Cat. 6494, Box 7B.

963 Jack Fitzgerald personal communication with Timothy Babalis, August 5, 2009; Lauren Dodge, "Forceful Island Raid Defended, Criticized," *Ventura County Star*, January 11, 1997.

meeting at its visitor center, the atmosphere quickly became tense as many of the approximately 70 Chumash representatives attending demanded that they be allowed to play a greater role in the protection of their ancestral lands and burial grounds. Some even proposed that tribal warriors be stationed on the island to guard their ancestors.[964] But in spite of this inevitable friction, relations between the park and the tribes improved. The arrest of Brian Krantz emphasized the seriousness of ARPA violations to the public and drew attention to the value of American Indian heritage on the islands. This represented a critical step in developing a lasting, positive relationship between the park and local Chumash community members, who became increasingly active in the park as a direct result.

On October 1, 1997, the bones taken by Brian Krantz were solemnly reinterred on East Santa Cruz Island by Chumash tribal members. Julie Tumamait-Stenslie, who was determined to be the closest living relative of the young woman who had been buried here more than 1,800 years earlier, presided over the ceremony. Tumamait's more recent ancestors were from the Chumash village of Nanawani, near where the bones had been discovered. Also participating in the ceremony were Chumash representatives Diane Napoleone and Mokie Bañuelos. The Chumash were accompanied by park Superintendent Tim Setnicka and six other NPS staff including agents Todd Swain and Jeffrey Sullivan, as well as prosecutor Darryl Perlin and curator John Johnson. The Chumash expressed their support for the actions the National Park Service had taken to recover these bones and to convict at least one of the men who had desecrated their ancestors' graves. They were glad of the opportunity to draw attention to the gravity of this issue and to honor their distant relatives. According to Bañuelos:

> *We were saddened and mad again when we reached the site. It was something very wrong that was done there. It shouldn't be done again. All of us came out of there feeling much better. That young woman [of the burial site] can continue her journey of the spirit now.*[965]

Perlin added:

> *This woman had no name, no face, no background—and yet someone is speaking on her behalf. Someone does care about her. What this case has done is literally bring this woman back to life.*[966]

Removing the Feral Sheep from East Santa Cruz Island

Though many problems remained unresolved, the federal government was now sole owner of East Santa Cruz Island, and the park could turn its attention to managing its resources. One of its highest priorities was the removal or elimination of feral sheep and pigs. The detrimental effects of both species on native ecosystems was already well-documented in scientific studies that showed that overgrazing by large populations of these animals threatened native vegetation and

964 Jack Fitzgerald communication, August 5, 2009.

965 Melinda Burns, "Chumash Descendants Rebury Bones on Island," *Santa Barbara News-Press*, n.d.

966 Ibid.

exacerbated erosion.[967] The Nature Conservancy's studies had revealed that island endemics were a preferred food item of sheep, and several rare species were threatened.[968] The park's 1994 Resource Management Plan had recommended that the exotic animals be eradicated, noting the following reasons as justification:

> *Extensive soil erosion, destruction of understory communities, deterioration of woody vegetation, restriction of native plant regeneration and distribution, damage to sensitive riparian areas, and disruption of archeological and paleontological resources are all impacts attributed to sheep and pigs. Mitigation of these impacts is vital for the protection and restoration of native insular habitats and mandated by Public Law 96-199 which created Channel Islands National Park.*[969]

The park had already successfully eradicated feral pigs from Santa Rosa Island using lethal methods, and TNC was in the process of doing the same with feral sheep on the western side of Santa Cruz Island with clearly visible results in the positive response from native vegetation. This seemed the obvious strategy to pursue on East Santa Cruz Island as well. Killing the animals was initially chosen as the most efficient and cost-effective means of mitigating this impact, but problems soon arose that caused the park more controversy.

The most immediate problem was the negative publicity that killing the animals, especially the sheep, would attract. This had already proven to be a challenge with eradication of feral pigs on Santa Rosa. In that instance, the park had been able to carry out its plans without serious consequences or delays because the criticism came from a handful of individuals representing special interest groups. Under the present circumstances, however, with public attention already focused on the park for its handling of the Brian Krantz investigation and the Gherini property takings, the park could expect to be scrutinized far more closely than before, no matter what it did. This became apparent even before the arrest of the Island Adventures guides when Santa Barbara attorney Richard Tentler warned Superintendent Setnicka in early December 1996 that the park's proposed sheep kill would elicit widespread popular opposition and might prove to be unacceptable on both environmental and cultural grounds. The attorney went on to demand that, if the park chose to continue with the plan, it must comply with all applicable legislation including the National Environmental Policy Act, the National Historic Preservation Act, and 11 additional state and federal laws.[970] It was obvious that Tentler had reviewed the 1994 Resource Management Plan and was familiar with the park's objectives for East Santa Cruz Island and how it expected to achieve these objectives. His warning was, in one sense, superfluous because

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967 S. Carlquist, *Island Biology* (New York: Columbia University Press, 1974); B. E. Coblentz, "Some Range Relationships of Feral Goats on Santa Catalina Island, California," *Journal of Range Management* 30 (1977) 415-419; Dirk Van Vuren, The Feral Sheep of Santa Cruz Island: Status, Impacts and Management Recommendations (Santa Barbara, CA: The Nature Conservancy, 1981); Peter Schuyler, "Control of Feral Sheep"; Dirk Van Vuren and B. Coblentz, "Some Ecological Effects of Feral Sheep on Santa Cruz Island, California, USA," *Biological Conservation* 41 (1987): 253-268.

968 For example, *Lotus argophyllus* var. niveus, *Quercus tomentella*, *Dendromecon rigida* var. *harfordii*, and *Lyonothamnus floribundus* var. *asplenifolius*, all of which showed a marked increase in abundance and distribution following the removal of the sheep. See Schuyler, "Control of Feral Sheep," 450. See also Van Vuren, *The Feral Sheep of Santa Cruz Island*; and Van Vuren and Coblentz, "Some Ecological Effects."

969 NPS, Channel Islands National Park: Resources Management Plan, 1994 (Ventura, CA: NPS, CINP, 1994) Section N1.210.

970 Richard W. Tentler to Superintendent Tim Setnicka, December 5, 1996, CINP Archives, Acc. 265, Cat. 6494, Box 7B. According to his own statement, Tentler's law office was a member of the Environmental Law Action Coalition, "a group of attorneys who have agreed to selectively intervene in cases involving severe environmental impact." The letter—which claimed to represent the interests of numerous animal rights advocates, preservationists and environmentalists—was copied to members of Congress, the Department of the Interior and the White House.

the park had to comply with the applicable legislation regardless of whether it was threatened. But Tentler's warning also indicated the intensity of criticism the park might receive once it began public consultation on the proposed lethal eradication of exotic animals. This gave the park reason to pause and reconsider its alternatives.

Another indication that trouble could be expected was the response to TNC's eradication of sheep on the western side of Santa Cruz Island. This had been underway since 1980 with little public acknowledgement or criticism though more than 30,000 animals had been killed over the ensuing decade.[971] But when guests of Island Adventures brought TNC's practices to the attention of the media after their final sport hunting event on the weekend of February 8, 1997, the Conservancy's relative invisibility came to an end. Two weeks later, former Island Adventures caretaker John Morgando returned to the isthmus with a video camera to document the grisly scene, where dead sheep had been left on the ground to rot. He shared his videotapes with local newspapers and television broadcasters and created a public sensation, stimulating numerous letters and calls to the park condemning the slaughter.

TNC at first ignored these complaints, though it eventually agreed to a moratorium on the killing. This was not much of a sacrifice for the Conservancy, since the sheep were trespass animals that had passed over from the Gherini lands to the Conservancy's property driven there, ironically, by the Island Adventures hunters, but also attracted by the improved quality of vegetation west of the Montañon. TNC's principal concern was to prevent the reestablishment of a feral sheep population on the west side of the island where it had already eradicated these animals at considerable cost and effort. But the Conservancy knew that the Park Service planned to remove the sheep from its side of the island as well, so it could afford to suspend its border patrols for the time being. The park, meanwhile, successfully deflected criticism by publicly distancing itself from TNC during this controversy and claiming that it shared no responsibility for the slaughter of the sheep on the isthmus.[972] Public outcry would be loud and sustained if the park were now to adopt its own eradication program. Since such an undertaking would require public comment through the NEPA review process, the negative publicity might actually prevent the park's proposal from going forward as attorney Richard Tentler had insinuated.

The final and most decisive challenge to the park's proposal to eradicate the East Santa Cruz Island sheep, however, was Francis Gherini. H.R. 4059, the legislation that formally condemned the Gherini family's property, allowed "the orderly termination of all current activities and the removal of any equipment, facilities, or personal property." This required the government to provide the necessary transportation to carry out this order or monetary compensation if private services were contracted. Francis Gherini used the stipulation to great effect by demanding extreme measures to protect his family's ranching property. Probably the most egregious example was his claim that about 40 large tree stumps were actually furniture and therefore had to be transported off the island by the Park Service. Far more troublesome and costly, however, were his claims on behalf of the ranch animals, beginning with the approximately 1,500 sheep that remained on the open range.

Gherini insisted that these animals belonged exclusively to him and had to be removed according to his wishes. Of course, this was not true, because the other family members shared

971 Peter Schuyler, "Control of Feral Sheep."

972 Carol Spears, Public Information Officer, Channel Islands National Park, February 12, 1997, CINP Archives, Acc. 265, Cat. 6494, Box 7A.

ownership. He first proposed that Island Adventures increase its per-hunter quota to allow paying sportsmen to eliminate the remaining animals.[973] At the rates currently being charged, this would have brought Francis a substantial profit, but it also would have prolonged the hunt club's presence on the island and continued to interfere with the park's ability to exercise its management prerogatives. The National Park Service rejected this proposal. Gherini responded by then swinging to the opposite extreme and, instead of expediting the sheep's eradication, began demanding inordinate measures to protect them. This gave a seemingly moral quality to his actions and allowed him to enlist the support of animal rights advocates. Insisting now that the sheep must be transported off the island, he demanded that they be helicoptered to Oregon, where a Christian organization, Discipleship Training International, operated a ranch for recovering alcoholics. He submitted a claim to the National Park Service for reimbursement of the cost to implement this plan.[974]

In the end, the National Park Service agreed to remove all sheep from East Santa Cruz Island at Francis Gherini's insistence rather than killing any of them, although Francis could claim ownership over only half of the herd, which had been divided equally, along with the rest of the estate, with the heirs of his deceased brother Pier. Francis donated his half of the sheep to Discipleship Training International, while the National Park Service sent the other half of the flock to Buellton to be auctioned at a stockyard in accordance with the wishes of Pier's heirs. Park Service staff and contracted Navajo shepherds began the removal on July 11, 1997, under the watchful eyes of Farm Sanctuary, a nonprofit farm animal protection organization. The shepherds lured the first groups of sheep into paddocks with watering troughs, loaded them into livestock trailers that were hauled onto the *Surf Ranger*, the park's landing craft, landed at Port Hueneme, and driven to Buellton.[975] Although the operation was expected to take one year, it ultimately required nearly two, at least in part due to a flood in Scorpion Valley. Most of the sheep were not willing to be lured into the paddocks as easily as the first bunch and the park hired several contractors to laboriously track them down in the rough island terrain. Ultimately, the park contracted Ralph Lausten, a professional cowboy from the Santa Ynez Valley, who used helicopters, a crew on foot and on horseback, and a team of dogs to do the most challenging work to track down the remaining sheep and drive them into fenced pens. The sheep were then moved to the Scorpion corral and removed in livestock trailers on the *Surf Ranger*. He finally brought in the last two, a ewe and her lamb, in December 1999. The cost of the operation came to more than $2,000,000 for a total of 9,278 sheep, or about $230 per head.[976]

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973 Francis Gherini to NPS, February 5, 1997, CINP Archives, Acc. 265, Cat. 6494, Box 7B.

974 John Costello, Western Regional Office Lands Division, to CHIS, March 25, 1997, Ibid; John Gherini to Representative Walter Capps, April 7, 1997, Ibid.

975 Hilary E. MacGregor, "Wild Sheep Roundup, Exodus Start on Santa Cruz Island," *Los Angeles Times*, July 17, 1997.

976 Melinda Burns, "A Ewe Turn," *Santa Barbara News Press*, December 6, 1999; Jack Fitzgerald, interview with Ann Huston on October 10, 2019.

Figure 8-3. Corralling sheep for shipment from East Santa Cruz Island after the Park Service secured complete ownership in 1997.

Source: Photographer unknown. Courtesy of John Gherini.

Figure 8-4. The Park Service had to move more than 9,000 sheep from East Santa Cruz Island to the mainland on the *Surf Ranger* after gaining control of the land in 1997.

Source: Photographer unknown. CINP Archives, Acc. 305, Cat. 6844/006.

The Heritage Herd

Another issue that involved Francis Gherini was his support of the so-called "heritage herd." Kirk Connally, whose family runs Island Packers, the concessioner providing boat transportation to the park islands, is the husband of Santa Cruz Island Foundation President Marla Daily. He coined the name to describe the work horses on East Santa Cruz Island that had been used by generations of sheep ranchers. At the time of the Gherini condemnation in early 1997, 12 horses in two discrete herds remained.[977] They had all been born in the wild and never ridden. The story of Daily's interest in the East Santa Cruz Island horses begins with a bizarre event that led to her becoming involved in the long-standing dispute between the park and Francis Gherini.

It occurred in the summer of 1995, just as the undercover investigation of Island Adventures was getting underway. Special agent Todd Swain was visiting Channel Islands in connection with the investigation, but while he was there, he agreed to go out to Santa Cruz Island on a pig hunt with other park rangers at the request of TNC's Preserve Manager Rob Klinger. Superintendent Setnicka authorized this practice through a NEPA categorical exclusion that allowed his staff to participate in the periodic but ongoing hunt of feral pigs on the Conservancy's lands.[978] On July 24, Swain joined a hunting party that included Chief Ranger Jack Fitzgerald, Rob Klinger, and a few others. The party rode in two vehicles, with Fitzgerald and Klinger in one and Todd Swain in the other. As Fitzgerald later recalled, the unfortunate incident occurred at the end of a long day as the group was heading back to camp in the early twilight. Fitzgerald's vehicle was in the lead, while the vehicle with Todd Swain followed at a distance. Swain's group stopped when they spotted a pig on the hill above the road, silhouetted against the setting sun. Todd Swain sighted on the animal and shot. Almost simultaneously, a group of four horses emerged from behind a stand of bushes or small trees and ran directly in front of Swain's bullet. It struck one of the horses.[979]

By this time, Jack Fitzgerald's vehicle, which had never stopped, was about half a mile ahead, and the occupants were unaware of what had happened behind them. Suddenly, Fitzgerald and his companions heard four horses galloping wildly down the dirt road in their direction. Just before the horses reached their jeep, two of them dropped down onto the cobbled streambed beside the road, while the other two ran around the jeep on the uphill side. Three of the horses reunited just beyond the jeep and continued running, but one of the horses that had run into the streambed stopped. As Fitzgerald watched, it began to stagger and then stumbled closer to the jeep. Fitzgerald could see a small wound and a trickle of blood on its shoulder. The horse stiffened. Fitzgerald remembers thinking that it was going to urinate, but instead the horse just fell over, and he realized it had been shot. Rob Klinger was so distraught by this scene that he also collapsed in a state of shock. By this time, the second jeep had caught up, and the reunited party frantically discussed the situation. One of the men, overtaken with emotion, thought they needed to put down the injured horse, but Fitzgerald pointed out that the horse was already dead. Fitzgerald later drove over to get help from Lyndal Laughrin, the caretaker of the University of

977 Karen M. Blumenshine, Suzanne V. Benech, Ann T. Bowling, and Ned K. Waters, "Preliminary Survey of Physical, Genetic, Physiological and Behavioral Traits of Feral Horses (*Equus caballus*) on Santa Cruz Island," n.d., CINP Archives, Ephemera Coll., CHIS 0265, Box 9.

978 Tim Setnicka mentions this categorical exclusion in the post-retirement article he wrote, See Timothy J. Setnicka, "Ex-Park Chief Calls for Moratorium on Island 'Hunt,'" *Santa Barbara News-Press*, March 25, 2005.

979 Jack Fitzgerald, conversation with Timothy Babalis, August 5, 2009.

California's field station near the Stanton Main Ranch. Fitzgerald did not yet realize that the horse that had been shot was Sam, the adopted pet of Laughrin's wife, Ann Bromfield. Laughrin asked, "Was it the red one?" and Fitzgerald said, "Yes." He then remembers hearing a shriek from the back of the house when Laughrin told Bromfield the sad news.[980]

Subsequently, Laughrin would greet Fitzgerald but rarely say another word to him, and Fitzgerald suspected that Laughrin believed the shooting was not accidental. A tort claim was subsequently made, and the National Park Service and The Nature Conservancy each paid Ann Bromfield $5,000. It was at this point that Marla Daily became involved. Hearing of the incident and wanting to do something to help Ann Bromfield, she contacted Francis Gherini to see if he would be willing to donate one of the wild horses on East Santa Cruz Island to replace Sam.[981] Gherini agreed, and Dave Mills, one of the Island Adventures guides, walked the horse more than 20 miles over the Montañon to Lyndal Laughrin and Ann Bromfield's house in the Central Valley—not an easy task.

Francis agreed to allow veterinarian Dr. Karen Blumenshine of Santa Barbara, to inspect the East Santa Cruz Island herd. Blumenshine developed a keen interest in these horses and later conjectured that they might be evolving into a unique breed.[982] Marla Daily supported this theory with enthusiasm. Francis Gherini also supported the idea. Citing Blumenshine's research, he insisted that the horses were biologically and culturally significant and had to be protected in situ, contrary to the park's original proposal to remove the horses along with the other introduced livestock.[983] Francis turned the heritage herd over to Marla Daily and the Santa Cruz Island Foundation to manage. Once again, Francis did not have the legal authority to do this. He only possessed a 50% share in the ownership of the horses, while the remaining 50% belonged to Pier Gherini's heirs, represented at that time by John Gherini. Marla Daily states that John told her during a phone call that he had no interest in the feral horses. John Gherini has stated that he owned an interest in the horses and is still angry about this interference with what he regarded as private property.[984]

Marla Daily took up the cause of the heritage herd with vigor. As soon as Francis Gherini gave her formal responsibility for the horses, she established Save the Heritage Herd, a project administered through her husband Kirk Connally's nonprofit organization Terra Marine Research & Education.[985] Subsequently, the Foundation for Horses and Other Animals (FHOA), incorporated under its own charter and registered on March 17, 1997, with Lynne Sherman as

980 Ibid.

981 Nick Welsh, "The Taking of Santa Cruz Island," April 17, 1997.

982 Blumenshine et al., "Preliminary Survey."

983 The removal of these and other exotic livestock was called for as early as 1984 in the park's General Management Plan. The 1994 Resource Management Plan, which did not mention horses, reinforced this earlier decision by proposing a specific treatment plan for the feral sheep and pigs. The horses were not numerous enough to justify lethal eradication, but they would also be removed, presumably by transportation off the island.

984 Marla Daily comment to CINP, October 19, 2019; John Gherini interviewed by Lary Dilsaver, September 3, 2018.

985 Terra Marine Research & Education (TMRE) evolved from the educational programs organized by Kirk's father Bill Connally, who had founded Island Packers in 1968. TMRE was incorporated in 1986 for the purpose of conducting "... research and education in the marine sciences and related fields." http://www.tmre.org Accessed July 3, 2010.

the first chair of its board of directors.[986] Later that year, the FHOA, represented by Santa Barbara attorney James R. Nichols Jr., filed a lawsuit against the National Park Service to protect the heritage herd and prevent the park from moving them off the island.[987] The Park Service, supported by John Gherini, maintained that the horses did not represent a culturally significant legacy because they were descended from work horses brought out to the island as recently as the 1970s. The National Park Service also asserted that the horses had an adverse impact on the island environment, were a danger to visitors, and a potential liability to the park. John Gherini expressed his own opinion regarding the heritage herd in a letter dated December 9, 1996:

> *[Francis Gherini] has ... supported the retention of 12 horses on the island by claiming the herd is somehow a 'heritage herd.' This, of course, is not accurate since the horses presently on the Gherini Ranch are the offspring of horses brought from the mainland to the ranch in the late 1960s and early 1970s. Historically, the horses on the island were working horses and not used for breeding. The stallions were routinely cut and when new horses were needed, the owners imported them from the mainland. The issue of the horses is more an attempt to interfere with the proper management of the park by the Park Service rather than to present to the public an accurate history of island ranching.*[988]

John believed that the last working ranch horse "Colorado" died on December 19, 1976. He also noted that by the 1980s, the now-feral herd had grown to more than 30 individuals and had become a nuisance. The Gherinis culled nearly half of them at that time. John Gherini presented these facts to Marla Daily in a letter strongly criticizing her for supporting the idea of the heritage herd. He suggested that SCIF would be discredited by Daily's misrepresentation of the truth.[989]

Marla Daily's perspective on the East Santa Cruz Island horses proved popular, however, and was picked up by the local press. Newspaper columnist John Krist summed up the opinions of advocates for the heritage herd with the following:

> *They [the horses] are living genetic heirlooms, preserving in their DNA the lineage of the horses brought here in the 1860s to herd cattle. They are unlike horses found on the mainland, a chromosomal throwback to the days when cowboys throughout the West rode short, stocky animals like this to do the hard, bruising, dangerous work of ranching—before show breeders took the quarter horse and turned it into something else, a creature taller and heavier, with dainty hooves and absurdly fragile legs.*[990]

Krist did not report any evidence to support these assertions and John Gherini's later clarification suggested that most of these claims were unfounded. However, attorney James

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986 Lynne Sherman to the Save the Heritage Herd Project, April 14, 1997. Memo notes that FHOA will adopt the SHH project once FHOA obtains tax-exempt status. Until then, project remains with TMRE. Apparently, John Cloud, an outspoken critic of the project, requested information about making a donation in order to obtain information about the organization itself. Material relating to Heritage Herd in CINP Archives, Acc. 265, Cat. 6494, Box 9; Marla Daily comment to CINP, October 19, 2019.

987 Barbara Werger was the president of FHOA. Karen Blumenshine continued to work with the organization as a professional advocate for the herd, while graduate student Kristi Cetrulo did research on the horses for FHOA and opined that the herd represented a unique scientific opportunity which deserved further study.

988 John Gherini to Representative Walter Capps, April 7, 1997, CINP Archives, Acc. 265, Cat. 6494, Box 7B.

989 John Gherini to Marla Daily, December 9, 1996, Ibid., Box 9.

990 John Krist, "Wild Beauty," *Santa Barbara Magazine* (Spring 1997): 60-66.

Nichols insisted that the alleged genetic uniqueness was substantiated by DNA studies done by geneticist Dr. Ann Bowling, from the University of California, Davis, who was hired by FHOA, along with veterinarians Dr. Joe Cannon of Bonsall near San Luis Rey in San Diego County, and Dr. David Jensen of Los Alamos, near Lompoc in Santa Barbara County. A 1998 article in *Western Horseman* stated that she:

> *established that the chromosomal makeup of the island stock has a unique set of genetic characteristics. Bowling believes the genes are worth preserving because they contain beneficial traits, such as hardiness, that have been lost to our studbook breeds.*[991]

Francis Gherini said little during the ensuing controversy, except to express his desire to protect the herd and to criticize the park.

On January 13, 1998, Judge Kim Wardlaw of the US District Court in Los Angeles ruled in favor of the National Park Service in the suit brought by FHOA the previous year, "on the grounds that the agency had been concerned since 1983 that grazing animals, including horses, would threaten the restoration of native plants on the island." The concern referenced by the court appeared in the 1984 Land Protection Plan. These documents recommended purchase of the Gherini property on East Santa Cruz Island, cessation of ranching, and removal of all exotic animals. The National Park Service responded to the judge's favorable decision by moving ahead with its plan to remove the horses, confining them in a temporary corral while preparing transportation to convey the animals off the island. In the meantime, the FHOA appealed Judge Wardlaw's decision, and in March of 1998, the National Park Service was enjoined from removing the horses until the appeal could be decided. The corralled horses were ordered released for the time being.[992] Ultimately, the US Court of Appeals affirmed the district court's decision on grounds that the horses were private property, not wild, as FHOA now claimed, and therefore were not subject to conditions of the National Environmental Policy Act, which would have required compliance through an environmental impact statement with public consultation.[993] On September 11, 1998, the 9th Circuit Court of Appeals ruled that the park could remove the horses, which now numbered 16 after an additional 4 colts had been born.[994] It also barred Dr. Blumenshine from any further participation. The Park Service contracted equine veterinarian Dr. Timothy Vail, of the Santa Rosa Island Vail family, to monitor the horses while wrangler Ralph Lausten rounded them up.

From September 23 through 25, all visitors were restricted from East Santa Cruz Island while the capture and removal of the horses took place. Rangers awakened one group of campers early in the morning and told them to leave the island. Though the campers complied, this unexpected eviction, which came without warning or prior notice, elicited an angry and well-publicized response. The park's public information officer explained that the unusual action was done to protect people from a possibly dangerous situation. But Superintendent Setnicka later admitted

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991 Judy Pearce, "Heritage Herd," *Western Horseman*, May, 1998, 84-88.

992 "Wild Horses' Removal Blocked," *Santa Barbara News-Press*, March 21, 1998; DOI, Channel Islands National Park, California: Land Protection Plan (Ventura, CA: National Park Service, CINP, 1984).

993 The Land Protection Plan had been prepared as prerequisite to the park's General Management Plan (GMP), which was completed later that year with a Finding of No Significant Impact (FONSI). The FONSI obviated the need for a full Environmental Impact Statement. It was this decision that FHOA challenged.

994 *Foundation for Horses and Other Animals v. Babbitt*, USCA 9th, No. 98-55148, September 11, 1998.

that he had ordered the eviction to protect his staff and contractors from public scrutiny, especially after it became known that one of the campers was a young photographer, Tippy McKinsey, who was planning to make a documentary film of the horse removal for advocates of the heritage herd.[995] This led critics to accuse the park of attempting to conceal abusive treatment of the horses. While attempting to document alleged injuries to substantiate this claim, McKinsey and activist Andre Barclay were later caught trespassing at a quarantine facility on the mainland where the horses were confined for inspection. The horses proved to have been well-treated and were eventually moved to a permanent home at Wild Horse Sanctuary in northern California.[996] On August 28, 2018, when visiting the SCIF museum buildings at the Main Ranch on TNC property, one of this report's authors noted a prominently placed sign lamenting the Park Service's decision to remove the "heavenly heritage herd" from the island.

Other Exotic Species on Santa Cruz Island

The removal of exotic livestock had its unintended consequences. One of the more ironic was the explosive growth of some exotic plant populations such as fennel (*Foeniculum vulgare*). Fennel is a perennial herb that grows from a bulbous root to a height of five or six feet (see plate 4c). It has a distinctive licorice odor and was originally imported from the Mediterranean region of southern Europe for culinary purposes. It has been present as a naturalized species on Santa Cruz Island since the late 19th century, when it may have been introduced with livestock brought over from the mainland.[997] As long as livestock were common, the fennel population was kept in check by their grazing, and mature plants remained relatively incidental in distribution and stand size. But as the livestock cropped the fennel and suppressed propagules, they also spread its seeds widely across the landscape and even helped to till them into the soil with their hooves. The effects of this activity did not become apparent until after the livestock were removed, first with the sheep that were eliminated between 1981 and 1987 on The Nature Conservancy's land, and then when approximately 1,500 cattle were removed from the same lands in 1988. Although wild pigs never exerted significant grazing pressure on the fennel, they contributed to its distribution. At first there was little change in the fennel population, but in 1991, after substantial rains ended a five-year drought, the fennel began to grow at a rate far exceeding anyone's worst fears. In only a couple of years, it increased its range to dominate approximately 10% of the island. Mature plants formed nearly complete coverage over broad areas, growing so luxuriously and densely that a person could not easily walk through the infested zone.[998] The removal of the Gherini sheep from East Santa Cruz Island a few years later increased the scope of the problem. The faster-growing exotics suppressed or outcompeted native vegetation that had not yet recovered from years of overgrazing. Possibly the only benefit from this explosion of fennel was the cover it provided the island fox.

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995 Gary Polakovic, "Island Evacuated for Wild Horse Removal," *Los Angeles Times*, September 24, 1998.

996 "Horses removed from Channel island," *Ventura County Star*, September 24, 1998.

997 Carla Bossard, John M. Randall and Marc C. Hoshovsky, eds., *Invasive Plants of California's Wildlands* (Berkeley: University of California Press, 2000).

998 Wesley I. Colvin, III, and Stephen R. Gliessman, "Fennel (*Foeniculum vulgare*) Management and Native Species Enhancement on Santa Cruz Island, California," in *Proceedings of the Fifth California Islands Symposium*, 1999, 184-89; Bob Brenton, and Rob Klinger, "Modeling the Expansion of Fennel (*Foeniculum vulgare*) on the Channel Islands," in W. Halvorson and G. Maender, eds., *The Fourth Channel Islands Symposium: Update on the Status of Resources*, (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1994) 497-504; and S. Beatty and D. Licari, "Invasion of Fennel (*Foeniculum vulgare*) into Shrub Communities on Santa Cruz Island, CA," *Madroño* 39 (1992) 54-66.

Some biologists criticized TNC for not doing enough to address the fennel problem and the related problem of wild pigs, whose population was also on the upswing after the return of normal rainfall patterns.[999] The critics pointed out that there were five full-time TNC employees on Santa Cruz Island, but only one, ecologist Rob Klinger, worked directly for resource management. The others often spent their time maintaining the ranch facilities and hosting private donors at the Main Ranch in the Central Valley. Given the magnitude of the challenges the Conservancy faced, these criticisms were not entirely justified. For one thing, little was known at that time about the growing cycle and effective treatment methodology for fennel, despite the plant's long association with humans as a culturally significant plant. The Santa Cruz Island Preserve became a laboratory for primary research on these questions. Rob Klinger established numerous exclosures in the Central Valley where visiting scientists studied fennel under controlled conditions and conducted experiments to learn how to effectively manage fennel populations and, if possible, to eradicate them.

Early research suggested that standard applications of glyphosate herbicides yielded limited results and concluded that the most effective treatment was digging the plants out of the ground. But this was hardly practical, given that the taproot could extend as much as 10 feet into soil that, for much of the year, was as dry and hard as rock. Moreover, this treatment would have to be carried out over more than 3,000 acres of rugged landscape where fennel had become the dominant species. Eventually, Klinger opted for a strategy that combined both fire and herbicides. One of the factors that had inhibited the success of herbicide in early trials was the bulk of mature, above-ground biomass. Prescribed burns eliminated the majority of this material, allowing new, metabolically active growth to emerge in the cleared space where it could be sprayed more effectively with herbicides. Fire had the additional benefit of stimulating seed germination, forcing most of the accumulated seed bank to sprout all at once and be treated immediately. Otherwise, seed germination could be staggered intermittently over as much as seven years. TNC planned to implement this methodology on a large scale, beginning in the fall of 1997, while the Park Service planned similar applications within its own boundaries. By that time, however, the island fox population was suffering a major collapse, and plans for treating the fennel were temporarily suspended out of concern that the foxes depended on the dense plant cover to escape predation by golden eagles. Another worry was the possibility of burning the foxes themselves when the fennel stands ignited.

Fennel was not the only invasive exotic plant on Santa Cruz Island. By the early 1990s, botanists had counted 154 invasive or potentially-invasive species on the island along with approximately 480 native plant species.[1000] Many of these exotics posed a threat to native diversity and habitat quality. Like fennel, many of these species were also encouraged by habitat modifications caused by exotic animals. The most obvious problem was rooting by pigs, which created ruderal soil conditions that favored species that had evolved with similar kinds of disturbance.[1001] But one unexpected animal that assisted exotic plant invasion was the European honey bee (*Apis mellifera*). This species had been present on Santa Cruz Island for at least a century, and probably had been introduced by Justinian Caire. Researchers comparing the habits of exotic

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999 Melinda Burns, "Island Faces New Natural Challenges," *Santa Barbara News-Press*, April 28, 1997.

1000 Steve Junak et al., *A Flora of Santa Cruz Island* (Santa Barbara, CA: Santa Barbara Botanical Garden, 1995).

1001 Ruderal is defined as a badly disturbed condition or a "wasteland." This thesis is presented by Alfred Crosby, who also discusses the introduction of the honey bee to North America in *Ecological Imperialism: The Biological Expansion of Europe, 900-1900* (Cambridge, UK: Cambridge University Press, 1986).

honey bees with native bees discovered that the honey bee actually promotes the reproductive success of some introduced weeds. In one study, scientists found that the number of honey bees visiting the exotic yellow star thistle (*Centaurea solstitialis*) exceeded that of native bees by a ratio of 33 to 1. The reverse was true with the native gumplants (*Grindelia camporum*) where native bee visits exceeded those by honey bees by a ratio of 46 to 1. Because plant reproduction depends on the activity of pollinators like bees, the scientists concluded that the honey bees' preference for yellow star thistle would increase the fecundity of this already-aggressive invader. This gave it a competitive advantage over native species that were unaffected by the presence of the European honey bees. The study did not consider whether pollination activity also increased among native species with the arrival of the European honey bees.[1002]

In a related study, researchers were able to derive more subtle conclusions. They found that the European honey bee exerted its greatest influence on exotic vegetation during periods of climatic stress. Honey bees store extensive quantities of food resources (honey on the comb) whereas most native bees do not. This enables them to remain active all year long and even to thrive during periods of environmental adversity such as drought. While honey bees might prefer exotic plant species under normal conditions, under adverse conditions the researchers speculated that they would prefer native plants. This is because the native plant species are better adapted to California's extreme climatic variations and remain comparatively vigorous during a drought while exotic plants, which are ill-adapted to these events, do not. During these periods of relative stress, the exotic bees compete directly with native bees, threatening the survival of the latter. If this finding is combined with the results of the previous study that demonstrated a preferential advantage for exotic plant species during times of resource abundance, the net effect clearly favors exotic generalists like yellow star thistle over habitat specialists like the native gumplant.[1003]

Convinced of the detrimental effects of the European honey bee on native habitat, University of California, Santa Barbara, scientist Adrian Wenner, who had been involved in both research studies described above, decided to attempt the eradication of this exotic insect. At that time, the European honey bee was found only on Santa Cruz Island, though the threat of its potential migration to nearby Santa Rosa Island was a concern. Wenner admitted that his decision to eradicate the honey bee from Santa Cruz Island was connected to his learning of the recent crossover of the parasitic mite (*Varroa jacobsoni*) from the Asian honey bee (*Apis cerana*) to the European species. This evolution had already exterminated several domestic colonies in Florida and Wisconsin. Wenner realized that the mite could be used to eliminate similarly isolated populations such as those on Santa Cruz Island. Rationalizing his idea on "the inevitability of invasion of Santa Cruz Island by varroa mites," Wenner "pre-empted that eventuality with a deliberate use of those mites as a biological control agent against the European honey bee, in line with our original goal to eliminate those exotic bees from the island."[1004] The strategy proved successful, and by 1998, after 11 years of laborious fieldwork, he extirpated the European bee from Santa Cruz Island. Fortunately, the project was too obscure to attract much public notice, or it might have raised eyebrows in the animal rights community as other

1002 John F. Barthell, Robbin W. Thorp, Adrian M. Wenner, and John M. Randall, "Yellow Star-Thistle, Gumplant, and Feral Honey Bees on Santa Cruz Island: A Case of Invaders Assisting Invaders," in *Proceedings of the Fifth California Islands Symposium*, 1999, 269-73.

1003 Adrian M. Wenner, Robbin W. Thorp, and John F. Barhell, "Removal of European Honey Bees from the Santa Cruz Island Ecosystem," in *Proceedings of the Fifth California Islands Symposium*, 1999, 256-60.

1004 Ibid.

eradication programs had. During the final year, however, an apiary magazine learned of the project and included the following comment, made by two contributing biologists:

> *Such a program [to return the island to its natural state by eliminating introduced species such as the European honey bee] is ridiculous if not impossible. It is believed that Santa Cruz Island now contains the ONLY pure STRAIN of THIS BEE RACE in the world."*[1005]

Apparently, the authors believed that mainland bees had hybridized subsequent to their introduction on Santa Cruz Island and were no longer pure strains, though what they meant by "pure" remains ambiguous. A similar argument had already been proposed by the FHOA in defense of the heritage herd, so the logic seemed to follow a pattern. As it happens, the writers' complaint fell on deaf ears, and nothing more came of the issue. As of December 2019, there are no exotic bees on any of the Northern Channel Islands.

THE SCORPION FLOOD

Although condemnation of Francis Gherini's East Santa Cruz Island property had now been implemented, the Park Service continued to negotiate with Francis throughout 1997, trying unsuccessfully to reach a mutually acceptable appraisal. Meanwhile, park staff struggled with ongoing efforts to remove the last of the Gherini sheep from East Santa Cruz Island at the same time as it was fighting a lawsuit filed by Friends of Horses and Other Animals over its proposed removal of the heritage herd. Criticism of the park's handling of the Brian Krantz arrest was beginning to fade, at least in the mainstream media, but local feelings remained heated, and some people still have never forgotten the incident. It could hardly have been a more eventful and trying year for the park, but before it ended there would be still one more significant challenge, this one natural in origin.

After the final acquisition of former Gherini land in February 1997, the National Park Service opened the island to public visitation and launched a vigorous cleanup to improve its facilities for public visitation. Park staff removed tons of trash including old vehicles, set up a campground in the Scorpion eucalyptus grove with campsites and picnic tables, and occupied the ranch buildings because there were no park quarters on the island at that point. On the morning of Friday, December 5, 1997, a large winter storm moved in over Southern California, bringing rain and high winds. By late morning, it had already become impossible to cross the channel from the mainland, and the Island Packers boat had to abandon three campers who were scheduled to be picked up at Scorpion Harbor. East Santa Cruz Island Ranger Chris Wright allowed the campers to move into the adobe ranch house until the storm broke, but it continued to rain steadily for the rest of the day. At about 8:00 p.m., he sent an urgent message to the mainland. The rain had intensified and four feet of water was now flowing through the ranch house. He and the three campers were safe, but trapped, on the second floor. Outside, heavy ranch equipment and even buildings were being swept away in the torrent. Headquarters contacted Chief Ranger Jack Fitzgerald, but nothing could be done until the following morning, when the storm finally abated and a helicopter was able to fly out to the island. It flew the

1005 Kate Faulkner e-mail to Tim Setnicka, "New Heritage Herd—Honey Bees on SCI," August 26, 1997, CINP Archives, Acc. 265, Cat. 6494, Box 9.

stranded campers back to the mainland, while an NPS crew remained to assess the damage and begin piecing together what had happened. The storm and flood destroyed all the work that the park staff had undertaken previously.[1006]

A few days later, the *Ventura Star* reported the calamity. Chief of Interpretation Carol Spears informed reporters that runoff from the storm had pushed the single-story bunkhouse more than 20 feet off its foundation, demolished the blacksmith shop that was more than 100 years old, and washed away a number of smaller structures and a lot of the park's equipment. Because the story of ranching could not be told on Santa Rosa Island where Vail & Vickers still operated, the National Park Service had planned to use Scorpion Ranch for interpretation. Spears sadly acknowledged that the blacksmith shop "was a really exciting cultural resource that we were planning to stabilize and center a lot of education around and it's gone. The anvil was moved about 60 feet away, but everything else is gone." In fact, only four posts were left from the frame of the historic shop. The newspaper noted that park employees were living on a boat in the harbor nearby as they assessed the damage and determined how to repair it.[1007]

Following the initial evaluation, Fitzgerald and Superintendent Setnicka concluded that the damage justified calling for assistance from outside sources. On Friday the 12th, one week after the storm, an All-Risk Management team arrived from the NPS Intermountain Region. Setnicka signed a delegation of authority that gave the team's incident commander full responsibility for clean-up and assessment of resource damage. The All-Risk Management team remained on Santa Cruz Island for the next two weeks before issuing its Damage Assessment Report and turning management of the situation over to the park on December 22. Among the conclusions the management team submitted was an evaluation of the material cost of the disaster, excluding time and resources expended in responding to the incident, that amounted to over $100,000. The sheep removal team lost an additional $16,000 in supplies and fencing that it had cached near Scorpion Ranch. These totals did not come close to the cost of restoring the historic structures that had been affected. In some cases, the damage was irreparable because the structures were completely destroyed. The storm not only swept away the blacksmith shop but virtually all of the historic equipment inside the building.

According to the official report later prepared by investigating hydrologist William L. Jackson, approximately 11 inches of rain fell on East Santa Cruz Island in the 24 hours between Friday morning and the following Saturday. Based on historical meteorological records, the National Oceanic and Atmospheric Administration had estimated the most extreme 100-year rainfall event to be about 6 inches in 24 hours. This storm dumped nearly twice that amount. The situation was exacerbated by heavy sediment loads that the deluge washed down from the surrounding hillsides and upper reaches of Scorpion Creek. Jackson noted:

> *One of the most significant aspects of this flood was the enormous amount of sediment production and delivery within the watershed. Mass failures and debris flows occurred within most tributaries in the lower mile of the watershed, and huge volumes of coarse sediment (sand, gravel, cobble and boulder-sized materials) were delivered to the main channel of Scorpion Creek. To understand this flood and its*

1006 "Rains leave destruction on Santa Cruz Island," *Ventura Star*, December 10, 1997.

1007 Ibid.

> *implications for floodplain management requires that the event be considered as much a "sedimentation event" as a hydrologic event.*[1008]

The bulk of this sediment was deposited in the alluvial reach of the watershed, especially in the bottom 2,000 feet or so, where reduced channel gradient and the backwater effect from a natural ocean berm resulted in sedimentation completely filling and obliterating the existing stream channel. This, in turn, forced the flood waters to spread across the entire alluvial plain from one hillside to the other. Unfortunately, the majority of the historic buildings and structures that comprised the core of Scorpion Ranch, including the ranch house, the bunkhouse, and several outbuildings occupied this plain. The former stood on a slight elevation at the toe of the northern slope, which may have saved it from more serious damage. While sediment transport is a natural occurrence in island watersheds during flood events, the sheer quantity of sediment during this particular flood was highly unusual and may not have resulted from natural conditions. More than likely, the barrenness of the hillsides, which had been denuded of vegetation by years of overgrazing, contributed to the disaster. Interestingly, Elizabeth Rice, manager of the Scorpion Ranch under Francis Gherini, had written Setnicka in 1995 asking for help moving a backhoe to the area with the park's landing craft. She needed it to clean up debris from storms that winter. Setnicka had refused to provide any assistance and threatened to pursue legal action if there was any attempt to change the streambed because of the requirement that the US Army Corps of Engineers issue a permit for streambed alteration.[1009]

Critics of the park quickly linked the coincidence of this event with the park's assumption of management authority over East Santa Cruz Island and attributed the disaster to the park's incompetence. For example, one letter in a Santa Barbara newspaper blamed the flooding and subsequent damage on the park's construction of a berm at the bottom of the Scorpion Creek drainage to assist removal of the Gherini sheep.[1010] However, the letter writer failed to notice that Scorpion Creek had already breached the ocean-front berm by noon on Friday the 5th, eight hours before the island ranger reported serious flooding within the ranch complex. This critic, and others like her, also failed to acknowledge the unprecedented severity of the downpour, which was double all historical records. The event was clearly a catastrophe, but it was not due to any action, or omission of action, by the Park Service. It was a disaster waiting to happen, and unfortunately, the Park Service happened to be the manager on watch when it did.

1008 William L. Jackson, "Preliminary Hydrologic and Geomorphic Analysis, Scorpion Flood '97, Channel Islands National Park," in Damage Assessment Report: Scorpion Flood 97, Channel Islands N.P. (Ventura, CA: CINP, 1998).

1009 Elizabeth Rice to Tim Setnicka, January 30, 1995. CINP Archives, Uncatalogued documents, Box 1, folder N1615 "ESCI Horses." A marginal note on the above letter written by an unknown park employee describes Setnicka's response.

1010 Patti Rosenmund, Letter to the Editor, *The Santa Barbara Independent*, January 22, 1998. Rosenmund was the wife of Jaret Owens.

Figure 8-5. Scorpion Ranch after the flood of December 5–6, 1997. The intense flow twisted the bunkhouse off its foundation and wiped out the blacksmith shop.

Source: Photographer unknown. CINP Archives, Cat. 35830.4.05.12.

Figure 8-6. John Gherini who held a reservation of use and occupancy at the site and park archeologist Don Morris inspecting damage after the flood.

Source: Photographer unknown. CINP Archives. Cat. 35830.4.05.13.

Figure 8-7. Repairing the Scorpion complex cost more than $100,000, took more than a year, and severely taxed the park's maintenance staff.

Source: Photographer unknown. CINP Digital Image Files.

RESOLUTION FOR THE GHERINI FAMILY

Nearly one year after the Scorpion flood, in the fall of 1998, the park maintenance division successfully completed the last major project resulting from the flood damage. The flood had lifted the bunkhouse from its original location and washed it downstream a short distance. In the course of cleaning up the site, archeologist Don Morris uncovered evidence of the original adobe building that had stood on the site. He and a small crew conducted an archeological excavation to document the site prior to construction of a new foundation for the bunkhouse. Following the excavation and construction of a new concrete block foundation, the NPS maintenance crew raised the bunkhouse onto the new foundation and re-roofed, repainted and structurally strengthened the entire building. The bunkhouse and surrounding yard were one of the parcels that Pier Gherini's heirs had reserved under their reservation of use and occupancy. The Park Service installed a fence to surround the property and provide some privacy for the Gherini family when they exercised their reservation of use and occupancy on the island. Lacking any residential quarters on the island, the Gherinis allowed NPS staff to use the bunkhouse, which contained six bedrooms and a central living area, when they were not visiting the island.

Francis Gherini, who had failed to secure a similar reservation of use and occupancy, continued to negotiate with the Park Service for monetary compensation for his quarter-interest in East Santa Cruz Island. He had already rejected the government's appraisal of $4,000,000, because it

was based on a comparable value derived from noncoastal mainland property in Riverside County.[1011] Francis, and his attorney Roger M. Sullivan, argued that this was not a legitimate comparison because it failed to account for the ocean frontage of the Gherini property or its development potential as a resort or luxury housing. Citing these possibilities, Francis countered with his own appraisal of $14,000,000. But Francis failed to acknowledge the remote location of Santa Cruz Island, which would make luxury housing impractical. In addition, the property's location in the coastal zone, regulated by the California Coastal Commission, made such development just as impossible as it had shortly after 1966 when the family abandoned their earlier plans to develop a resort.

The National Park Service believed that these considerations justified its appraisal based on land without high-end development potential. However, the matter was put to a jury, which decided on a compromise between the two appraisals, settling on $12,700,000. An additional $1,756,884 in interest was also awarded, raising the total to $14,456,884, which actually exceeded the amount that Francis had originally demanded. Ironically, Francis Gherini died less than a month after receiving this generous compensation. He was 84 at the time. His death brought the Gherini family's ranching legacy on East Santa Cruz Island to an end.[1012] Members of the family, especially John Gherini, have helped maintain the family legacy by assisting the park with its preservation and interpretation of ranching history.

TNC DONATES THE ISTHMUS

Once the National Park Service gained possession of East Santa Cruz Island, The Nature Conservancy sought to coordinate its management of the rest of the island with the agency's program at the east end. The National Park Service readily agreed and the two organizations worked out a cooperative agreement that benefitted both. TNC donated to the Park Service 14% of the island stretching from the Montañon to Prisoners Harbor. The area, known as the "Isthmus," meant the Park Service would now manage nearly a quarter of the island. This action came in spite of TNC's promise to Carey Stanton not to turn over his land to the government. It angered his friends and members of the Santa Cruz Island Foundation, but TNC secured a number of concessions that dramatically eased its operations and costs. Principal among these was the transfer of the Prisoners Harbor Pier to the National Park Service. The pier provided the primary access to TNC's portion of the island, and was used by them, their visitors, and the University of California's field station, as well as the Island Packers concession, which was permitted by TNC to lead hikes to Pelican Bay for their passengers. Historically, the US Navy had been responsible for maintaining the pier as part of its lease agreement with Carey Stanton. However, it had halted its maintenance and, as the structure deteriorated, navy brass ignored TNC urgings to act. By the time the National Park Service assumed ownership it was no longer safe. The park contracted for design of a new pier in the same style and on the same footprint as the existing pier. To stay within the budget for the new pier, the park's maintenance crew removed the existing pier using a bulldozer and the landing craft, and working underwater with

1011 Nick Welsh, "Angry Poodle Barbecue," *The Independent*, February 11, 1999.

1012 "Santa Cruz land baron dies," *Ventura Star*, April 30, 1999; the final sale figure with interest was provided by Greg Gress, Pacific West Regional Office Lands Division.

chainsaws. Meek Construction built the new pier for just under $500,000. As part of the donation agreement, the park guaranteed the Conservancy's right to continue using the pier.[1013]

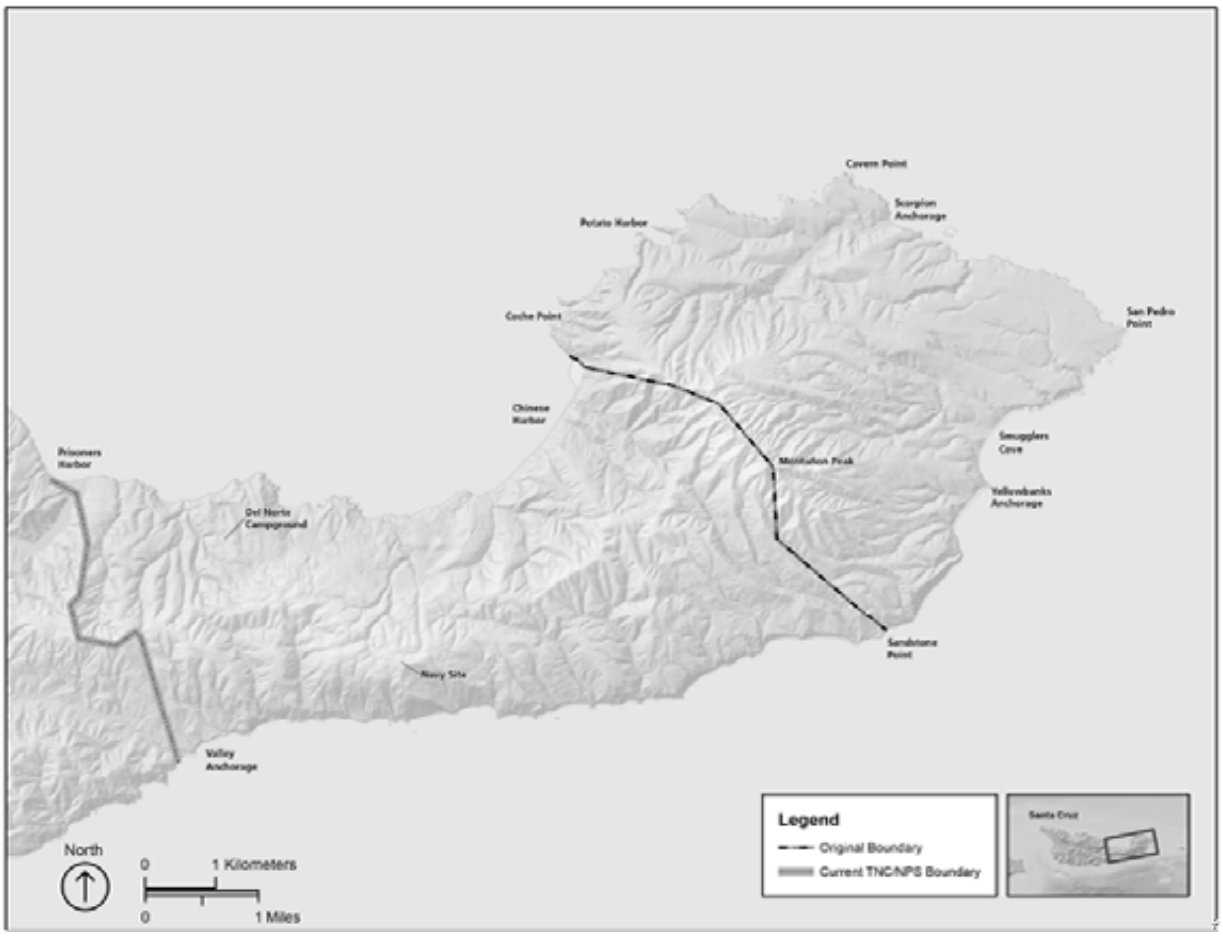
Steve McCormick of TNC and NPS Regional Director John J. Reynolds signed the agreement on November 2, 1999. Other benefits of the land transfer included an immediate NPS survey of the natural and cultural resources of all the agency's newly acquired property preparatory to an islandwide resource management plan; NPS transportation of TNC staff, equipment, and supplies to the island, and removal of trash to the mainland on park boats; NPS assumption of wildland fire management on the island that would include basing an engine at the Main Ranch; development of fencing, signage, and interpretation to prevent visitors from accessing TNC property without a permit from that organization; assistance in maintaining roads and an airstrip on TNC land; and storage of Conservancy supplies at the park headquarters in Ventura. The NPS officially took possession of the Isthmus on August 22, 2000, and opened it to the public.[1014]

Two other stipulations of the agreement required the National Park Service to design a plan for pig eradication and continue removal of fennel from the isthmus. TNC had already begun efforts there as well as on other parts of its holdings. On January 16, 2001, the organizations signed an agreement modification that extended telephone privileges to TNC and, on February 5, 2002, another that committed both to protecting the island fox. It promised to allow park biologists to capture foxes on TNC property and place them in protective cages near the Main Ranch. In a further commitment that heralded an important benefit for natural resource management, TNC agreed to provide advance funds for this operation should the Park Service be unable to secure an immediate appropriation. This financial procedure later facilitated the effort to eliminate pigs on the island.[1015]

1013 "Cooperative Agreement Between The National Park Service And The Nature Conservancy," November 2, 1999, CINP Archives, Cat. No. 40496, Series 1, Folder 63; Kent Bullard, personal communication with Ann Huston on Sept. 20, 2019, regarding the amount NPS spent on the pier; PMIS 06226, NPS electronic database.

1014 Ibid.

1015 Ibid.



Map 8-2. The Nature Conservancy donated the Isthmus portion of Santa Cruz Island, 14% of the land, to the National Park Service in August 2000.

Source: Cartography by Rockne Rudolph, Channel Islands National Park.

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CHAPTER NINE

Restoring Nature

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CHAPTER NINE: RESTORING NATURE

The main story of Channel Islands National Park is the story of restoration ecology and all of its natural and cultural ramifications. Exotic species have been recognized as a threat to island environments since the earliest days of the monument, and appreciation for the magnitude of this threat has increased with time.[1016] At Channel Islands, the first exotic species to be identified as a problem were the feral cats and rabbits on Santa Barbara Island that park rangers began trying to control as early as 1954. Later, Superintendent Ehorn successfully eliminated the burros on San Miguel Island in 1977. Eventually, nonnative plants were also included in the list of problem species. Exotic plants were even more numerous than animals; however, they were less existential threats than the animals that caused erosion, especially of topsoil, alterations of landforms, and excessive sedimentation in riparian areas. By fundamentally altering water and soil, the invasive animals had much greater impacts on ecosystem integrity than the invasive plants, hence the higher priority placed on eliminating the animals over the plants by resource stewards.[1017] A close relationship existed between the two as introduced animals often transported exotic seeds in their hooves and hides. Exotic animals established and maintained environmental conditions that favored exotic plant species over native ones. Excessive grazing by livestock, the trampling of soil by herds of ungulates when they congregated around water sources, and rooting by feral pigs all created conditions to which many Eurasian weeds had adapted to over millennia of co-evolution with similar types of disturbance in their native environments.

The same co-evolution had not occurred on the California islands, where no ungulates had existed after the endemic dwarf mammoth (*Mammuthus exilis*) died out approximately 11,000 years ago. The largest native animal to survive to the present was the diminutive island fox. The removal of sheep from Santa Cruz Island underlined this close relationship when populations of Mediterranean sweet fennel (*Foeniculum vulgare*) suddenly exploded to dominate much of the island. As noted in the last chapter, the proximate cause of this infestation was the removal of grazing pressure, which had previously kept the weeds in check. Sheep devastated native vegetation and created open ground that is prime habitat for fennel. Once the sheep were removed the fennel was able to grow to full size, seed, and spread to the ubiquitous bare, eroded ground. As the National Park Service evolved to accept and then emphasize science in its management policies, elimination of nonnative species became a priority. This is particularly so if human-made conditions threaten native species. Public resistance to the eradication of some exotics has become emotional and even political in many instances. Yet, the agency follows a logic expressed by biologists around the world. Citing R. B. Primack's *Essentials of Conservation Biology*, Mark Rauzon writes:

1016 See for example the watershed report by early Park Service biologists George M. Wright, Joseph S. Dixon, and Ben H. Thompson that highlighted the threat from exotic organisms entitled, *Fauna of the National Parks of the United States: A Preliminary Survey of Faunal Relations in National Parks*, (Washington, D.C.: Government Printing Office, 1933).

1017 Gary Davis comments to Lary Dilsaver, February 20, 2019.

> *In the hierarchy of conservation, there are four levels of consideration: (1) survival of the species, (2) survival of the habitat of the species, (3) survival of the habitat crucial to a community of species, and (4) survival of an ecological unit critical to the evolutionary process. We hoped to operate at all levels, saving species with few available habitats over the vast Pacific. Some might say we were picking one species over another. Guilty as charged. Speciesism, as defined by Merriam-Webster's Dictionary, is prejudice or discrimination based on a species; it is a human projection of values, the favorite son philosophy, and while lamentable, choices that favor the rarest with the greatest need must be made whenever possible."*[1018]

The situation on the Channel Islands presented incredibly difficult and expensive problems for NPS scientists and natural resource managers to solve. Furthermore, the complex web of predator-prey relationships on all the islands presented unexpected and severe crises that taxed their abilities and met both antagonistic public response and enthusiastic public support.

THE RATS OF ANACAPA ISLAND

The profound consequences of allowing these invasive exotic species to persist in the vulnerable island environments became increasingly clear as populations of native species began to perish, and in a few instances became extinct. Feral cats drove the endemic Channel Islands song sparrow (*Melospiza melodia graminea*) to extinction on Santa Barbara Island by 1959. Late 19th century island visitors introduced the cats in an unsuccessful attempt to control the population of exotic rats that had been introduced some years earlier, possibly from a shipwreck.[1019] A similar problem existed on Anacapa Island, where black rats (*Rattus rattus*) had been introduced from a visiting boat or possibly as a result of a shipwreck. The earliest documented account of rats on Anacapa comes from NPS biologist Lowell Sumner, who visited the island in 1939.[1020] He did not see any rats but found evidence of their presence in domestic cat scat. The cats presumably kept the rat population under control, but they also preyed on the native deer mice (*Peromyscus maniculatus*). The latter were gone from East Anacapa Island by 1979.[1021] The cats did not survive, but the rats did, and over the years they became a significant nuisance for both visitors and park staff. Overnight visitors complained of being overwhelmed by the exotic rodents that surged through their tents, crawling over every exposed surface, including the face of anyone attempting to sleep.

In response, the park's first chief of resources, Frank Ugolini, began control efforts shortly after his arrival in 1983.[1022] Ugolini's treatment efforts focused on using snap traps and bait stations wherever rangers could place them. This was effective on top of the island, where administrative

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1018 R. B. Primack, *Essentials of Conservation Biology* (Sunderland, MA: Sinauer Associates, 2010) 601; Mark J. Rauzon, *Isles of Amnesia: the History, Geography, and Restoration of America's Forgotten Pacific Islands* (Honolulu: University of Hawaii Press, 2016) 70-71.

1019 By 1896, cats were observed to be extremely abundant. Allan A. Schoenherr, C. Robert Feldmeth, and Michael J. Emerson. *Natural History of the Islands of California* (Berkeley, CA: University of California Press, 1999) 348.

1020 E. Lowell Sumner Jr., and Richard M. Bond, "An Investigation of Santa Barbara, Anacapa, and San Miguel Islands," June 28, 1939, CINP Archives, Acc. 250, Cat. 4016, Series 3, Folder 2, 27.

1021 Steve Chawkins, "Rat Patrol," *Los Angeles Times*, October 1, 1987.

1022 "Rat Eradication Project, 1983-1992," CINP Archives, Cat. 6842, Folder 3; Superintendent's Annual Reports for 1983 and 1984 (February 29, 1984 and March 14, 1985), CINP Archives, Cat. No. 13117, Box 1, Folder 5.

facilities and visitor use areas were developed, but did not eliminate them from areas where more vulnerable natural resources were located, such as the cliffsides where several species of seabirds typically nested. Although situated in crevices on sheer cliffs above the ocean, the rats were able to reach the nests of these birds and wreak havoc on their eggs.

There were eight species of nesting seabirds resident on Anacapa as of 2000.[1023] One of these, the California brown pelican (*Pelicanus occidentalis*), was listed under the federal Endangered Species Act. The California Department of Fish and Game listed two others as "Species of Special Concern," the double-crested cormorant (*Phalacrocorax auritus*) and the Scripps's murrelet (*Synthliboramphorus scrippsi*). The murrelet is also a federally listed Species of Concern. The Scripps's murrelet is one of the rarest seabirds, with a global population numbering between 10,000 and 20,000.[1024] These elusive birds spend most of their life at sea, coming to land only to breed. They nest in as few as 10 locations, all in the islands of southern California and northern Mexico. Nests are established in narrow crevices or ledges on island cliffs above the water or in sea caves, making it particularly difficult to monitor the birds. Brown pelicans nest in more open terrain above the cliffs. Their larger size allows them to effectively defend their eggs against small predators unless they are disturbed by human intrusions. Like the murrelet, the nesting population of brown pelicans is limited to the coastal islands of northern Mexico and southern California. Since the entire populations of both species become concentrated in a relatively small geographical area during the breeding season, they are especially vulnerable to catastrophe.[1025] This is cause for great concern to scientists and resource managers, given that the area includes one of the largest shipping lanes in the world and oil tankers regularly pass through the birds' habitat. A single oil spill occurring during the nesting season could potentially eliminate both species (see plates 5a and 5b).[1026]

Apart from the threat posed by a catastrophic event, the most serious impacts on these seabird populations so far had proven to be the gradual degradation of their habitat from industrial

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1023 The eight species are the Scripps's murrelet (*Synthliboramphorus hypoleuca*), which was known at that time as Xantus's murrelet, double-crested cormorant (*Phalacrocorax auritus*), Brandt's cormorant (*Phalacrocorax penicillatus*), Pelagic cormorant (*Phalacrocorax pelagicus*), pigeon guillemot (*Cepphus columba*), black oystercatcher (*Haematopus bachmani*), brown pelican (*Pelecanus occidentalis*), and the western gull (*Larus occidentalis*). The Cassin's auklet (*Ptychoramphus aleuticus*) was believed to have nested on Anacapa Island as recently as the early 20th century, but no nests have been observed for more than 80 years. US Department of the Interior, Anacapa Island Restoration Plan: Final Environmental Impact Statement (Ventura, CA: NPS, CINP, October 2000), 39 ff. and 127-136.

1024 Bird Life International (2009) Species factsheet: *Synthliboramphus hypoleucu*s. Downloaded from http://www.birdlife.org on September 19, 2009; Harry R. Carter et al., "Biology and Conservation of Xantus's Murrelet: Discovery, Taxonomy and Distribution," *Marine Ornithology* 33 (2) 2005, 81-87; Nina J. Karnovsky and 13 other authors, "At-Sea Distribution, Abundance and Habitat Affinities of Xantus's Murrelets," *Marine Ornithology* 33 (2) 2005, 89-104.

1025 The ashy storm-petrel (*Oceanodroma homochroa*), which breeds on San Miguel, Santa Cruz, and Santa Barbara Islands but not on Anacapa, is similarly vulnerable. Its entire population is even smaller than that of the Scripps's murrelet, numbering only between 5,200 and 10,000. The petrel has similar habits and range as the murrelet, nesting within crevices and sea caves on islands and offshore rocks from Cape Mendocino in the north to the Los Coronados Islands off Baja California in the south. Most breeding occurs on the South Farallon Islands (off San Francisco) and the Channel Islands. [Bird Life International (2009) Species factsheet: *Oceanodroma homochroa*. Downloaded from http://www.birdlife.org on Sept. 19, 2009; See also, DOI, US Fish and Wildlife Service, "Twelve-Month Finding on a Petition to List the Ashy Storm-Petrel as Threatened or Endangered," *Federal Register* 74.159 (August 19, 2009): 41832-41860.

1026 Although listed by California as a Species of Special Concern, the double-crested cormorant is not considered to be in danger of extinction. It is categorized as a species of "least concern" by Bird Life International—the IUCN's official Red List Authority for birds—on account of its large range and relatively abundant global population.

pollutants and predation by introduced animals, primarily cats and rats.[1027] Both have had dramatic effects. On Santa Barbara Island, feral cats reduced the nesting population of murrelets to zero by 1939 when Lowell Sumner visited the island. Following the successful eradication of the cats on Santa Barbara by 1978, the murrelets quickly returned.[1028] Within 10 years, their breeding population numbered approximately 1,500. On Anacapa Island, attention focused instead on rats, since it was estimated that at least half of all murrelet nests were being destroyed by the rodents every year.[1029] Unfortunately, Frank Ugolini's rat management program did not significantly decrease the predation that was pushing the birds closer to extinction every year. Kate Faulkner, who replaced Ugolini in 1990, quickly realized the implications of his management strategy and halted the program. She understood that it was pointless to try to manage the rats unless they could be exterminated, but at the time this goal seemed impractical.[1030]

Eradication (1995–2002)

Several years after arriving at Channel Islands, Faulkner met Dr. Bernie Tershy, who at that time was assistant adjunct professor of biology at the University of California, Santa Cruz. Tershy was a specialist in the ecology and conservation of seabirds in Pacific island ecosystems and was familiar with the threats posed by introduced predators. He had considerable experience with the extermination of rats from islands and had already participated in successful treatment programs in New Zealand and other countries. He told Faulkner that the eradication of rats from Anacapa Island was feasible and suggested how the park might go about achieving this objective. Working with Tershy's organization, Island Conservation and Ecology Group, Faulkner developed a proposal for a feasibility study to gather data for a treatment plan that would completely eliminate the rats. Referencing the methodologies Tershy had described, Faulkner presented an eradication program to the Park Service's Natural Resources Advisory Committee, of which NPS science advisor David Graber and regional natural resource manager Jay Goldsmith were participants. Both these individuals proved instrumental in supporting Faulkner's proposal. As Faulkner remembers it:

> *A lot of times in the Park Service, you've got to have the plan and then they will fund the action . . . I think I was at the table, and they were divvying up the regional monies . . . [I said], "They've done it elsewhere [citing Tershy's work in New Zealand], and we think they can do it at Anacapa, but it's going to take field work; we're going to have to do a lot of testing, collect a lot more data on the rats." And you know, it was kind of going down to defeat, but then Dave Graber, who of course is very influential, Graber just said, "You know, I think they've got a chance here, and if they can do it, well I think it's worth finding out if they can do it or not. And so, I*

1027 On the impact of introduced mammals, especially rats, see Gerard J. McChesney, and Bernie R. Tershy, "History and Status of Introduced Mammals and Impacts to Breeding Seabirds on the California Channel and Northwestern Baja California Islands," *Colonial Waterbirds* 21 (3) 1998, 335-347. On the impact of environmental pollutants, see discussion of organochlorines later in this chapter.

1028 Cats remain one of the most significant threats to the murrelet population, as they are still present on Guadalupe Island, Mexico. Guadalupe Island may have once represented the largest breeding population in the murrelet's southern territory.

1029 During the late 1930s and 1940s, Frenchy LeDreau reportedly kept a few stray cats on Middle Anacapa. Park biologist Lowell Sumner had dismissed their significance, and they apparently had not proliferated, as none remained after LeDreau passed on. Dewey Livingston, "Island Legacies: A History of the Islands Within Channel Islands National Park," NPS Historic Resource Study, 2016, 795.

1030 Kate Faulkner interviewed by Timothy Babalis, August 5, 2009. Transcript on file at CINP Archives.

> *support funding this project." It wasn't that much, probably forty or fifty thousand to do the plan. So that kind of swayed everyone at the table, and so we got the money to develop the plan.*[1031]

With NPS support for the proposal, Faulkner began working with the Island Conservation and Ecology Group. That organization brought in Gregg Howald who had executed rat eradication projects in Canada.[1032] With his help, they started the field studies of all aspects of Anacapa's ecology that could be affected significantly by the eradication of rats. The National Park Service provided the money for the feasibility study. But the actual implementation of a meaningful project required significantly more funds. Fortuitously, these became available as a result of the *American Trader* settlement. The *American Trader* was an oil tanker owned by BP that had run over its anchor on February 17, 1990. off Huntington Beach, California. The resulting hull puncture released 416,598 gallons of crude oil and killed an estimated 3,400 seabirds. One result was the establishment of the American Trader Trustee Council to administer approximately $3,000,000 in settlement funds.[1033] The Council was looking for restoration projects to mitigate injury to seabirds because they had been directly harmed by the accident, and the Scripps' murrelet was specifically named in the mitigation proposal. That made Channel Islands an ideal location for restoration efforts because of its endemic population of this species. Faulkner and Tershy took advantage of this opportunity and proposed funding the eradication proposal through the *American Trader* mitigation settlement. The Council accepted their proposal and provided the money.

With the financial impediments overcome, the park next had to confront the practical challenges associated with implementation of the management plan itself. Among the earliest problems was how to preserve the endemic island deer mice, which would be potentially susceptible to any lethal treatment applied to the exotic black rats. During Ugolini's tenure, this challenge had been addressed mechanically, by placing poisoned bait in feeding stations that were accessible only to the black rats. They had to be entered through a vertical tube which could only be ascended by a mammal of sufficient size to press against both walls of the entrance pipe. The black rat was large enough to do this, averaging more than 200 grams in weight, but the island deer mouse, which averages about 24 grams, could not.[1034] This system worked tolerably well so long as the objective was management rather than eradication, but Faulkner could not realize her objectives through the same method. A more universally accessible bait in the form of poisoned bait pellets distributed randomly across the island would work. However, the team faced the challenge of how to preserve the native mice that would be just as attracted to the bait as the black rats. The only apparent solution was to remove some deer mice prior to treatment, maintain them in a temporary holding facility, and return them to the island after the treatment was complete and the black rats were gone.

1031 Ibid., The actual amount allocated for the plan was $35,000.

1032 Island Conservation is a charitable organization that was first established as a network of conservationists in 1994. The group works collaboratively with government resource managers and local communities to implement restoration of island native ecosystems through the treatment and eradication of invasive exotic species. http://www.islandconservation.org Accessed October 25, 2010.

1033 The Trustee Council comprised representatives from the California Department of Fish & Game, the National Oceanic and Atmospheric Administration, and the US Fish & Wildlife Service.

1034 "A Roof Rat Bait Station That Excludes Deer Mice," 1989, CINP Archives, Cat. 6842, "Rat Eradication Project, 1983-1992," Folder 3.

Faulkner and her team first needed to monitor the deer mice population. Deer mice are native to all three Anacapa islets but had been periodically absent from some of them in the recent past. When NPS officials began deer mouse monitoring in 1993, they found none on East Anacapa. The cause of their extirpation there is unknown, but biologists believed that it was at least partly due to the presence of the rats. The Park Service began monitoring deer mice on Middle and West Anacapa in 1993 and continued until about 1997. Mice recolonized the eastern islet around 1998, despite the continuing presence of rats, and again for unknown reasons. Monitoring began there in 1999. Geneticists Mary Ashley and Oliver Pergrams, from the University of Illinois at Chicago, determined that the new East Anacapa arrivals had come from the other islets, not from the mainland or other islands as originally thought possible. In addition, they found the mice formed a "metapopulation with a limited gene flow between the islets." Nevertheless, they recommended that the mice be captured from all three islets to maintain genetic variability.[1035]

Following the completion of an Environmental Impact Statement (EIS) in October 2000, approximately 1,000 deer mice, about half of the surviving population, were captured and held in cages in the Oil Building on East Anacapa, quickly dubbed the "Mouse House."[1036] The plan consisted of two phases. In phase one, resource managers captured the mice on East Anacapa in October and November 2001. Resource managers distributed bait laced with the anti-coagulant Brodifacoum by helicopter along the plateau and later dispersed more by hand along the cliffs to ensure it covered the territory of every rat. They established a "buffer zone" on Middle Anacapa with rodenticide to prevent any rats from crossing to the eastern islet. After treatment of the islet, park officials released the mice during the following spring to maximize their chances of survival because food resources were most abundant at this time. A year later, they carried out phase two, an identical sequence of steps on the other islets. The timing of these applications was carefully planned, since rodent populations, both mice and rats, increase tremendously during the summer when food is abundant but suffer high mortality during the winter months when resources become scarce. They can lose as much as 75% of their population by the end of winter. Biologists timed the treatment for the transition from summer to fall when populations remain high but food sources are rapidly declining. During this period of maximum resource stress, the rats were presumed to be most likely to take the bait because they were beginning to starve.

1035 Cathy Schwemm, "Population Monitoring of Deer Mice (*Peromyscus maniculatus*) on the California Channel Islands, 1989–2009," February, 2009, document provided by Kate Faulkner; Kate Faulkner personal communication with Lary Dilsaver, May 6, 2018.

1036 The Record of Decision was signed in November of 2000.

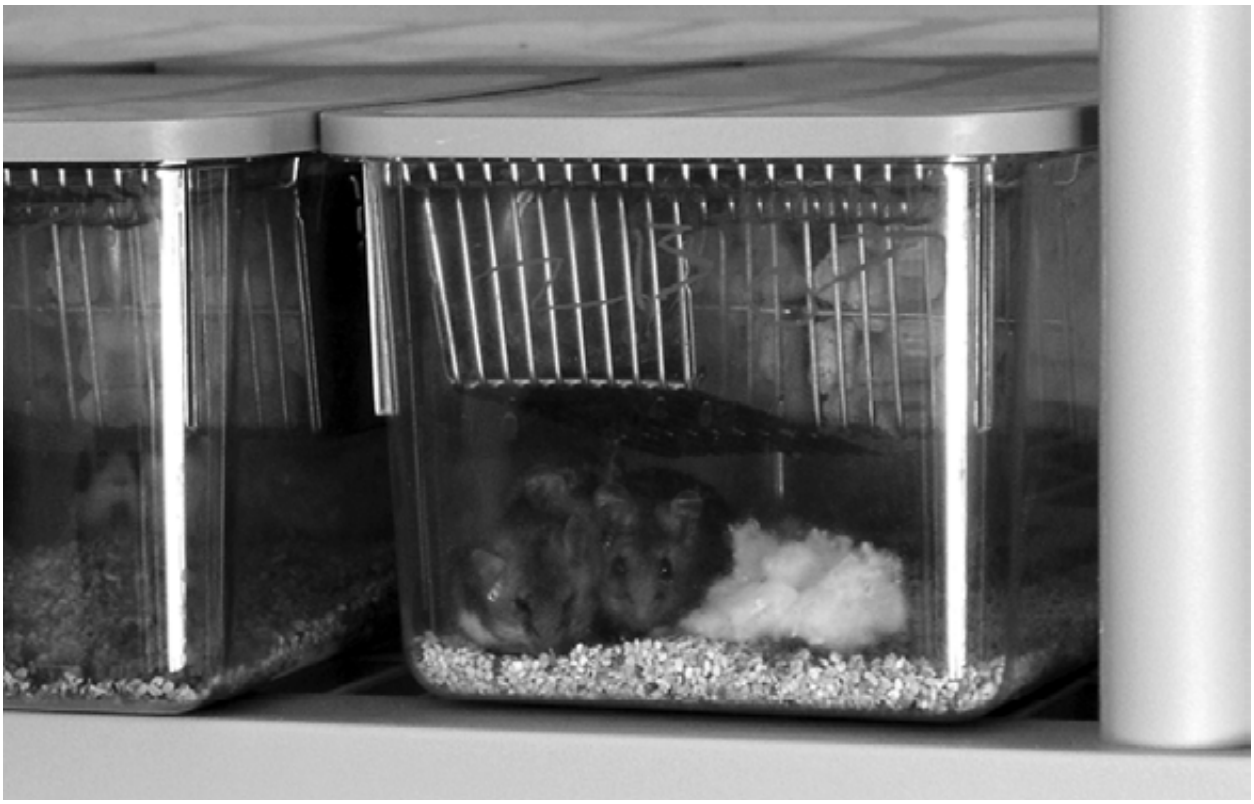

Figure 9-1. The "Mouse House" on East Anacapa Islet held native deer mice (*Peromyscus maniculatus* spp.) to protect a breeding population during the early 1990s while the National Park Service applied Brodifacoum-laced bait to kill the nonnative rats on all three islets.

Source: Photographer and date unknown. CINP Digital Image Files.

After the treatments, intensive monitoring of the islands continued for another three years to make sure that no rats had survived. A single pregnant female could easily repopulate the islands in relatively little time, so it was crucial to ensure that the program's effect was thorough. Anything less than 100% effectiveness would have constituted failure. Although the deer mice population remaining in the wild suffered massive mortality due to the poisonous bait, their population speedily recovered with the releases of the Mouse House contingents. The success of this program increased the overall resiliency of the species and it persuasively demonstrated the restoration potential for native species and ecosystems of invasive exotic treatment. A 2010 survey of Scripps's murrelets on the island showed that hatching success had increased threefold to 85%. By 2014, scientists estimated that the murrelet population on Anacapa had increased nearly 150% from between 450 and 600 breeding birds in 2001–2003 to between 1,100 and 1,450 breeding birds in 2014.[1037]

1037 Darrell L. Whitworth, Harry R. Carter, and Franklin Gress, "Recovery of a threatened seabird after eradication of an introduced predator: Eight years of progress for Scripps's murrelet at Anacapa Island, California," *Biological Conservation* 162, 2013, 52–59; Darrell L. Whitworth and Harry R. Carter, "Measuring the Response of Scripps's Murrelets (*Synthliboramphus scrippsi*) 12 Years after the Eradication of Black Rats (*Rattus rattus*) at Anacapa Island, California: Nocturnal Spotlight Surveys and Nest Monitoring," Unpublished report, California Institute of Environmental Studies, Davis, California. (2015) 34 pp.

Resistance and Results

From the perspective of resource managers at the park, the Anacapa Island rat eradication program was an unqualified success. Not only was the endemic deer mouse population protected and its historic range restored, but breeding populations of several threatened seabirds also were protected. The rats were not threatened as a species because they are widespread across much of the world. Nevertheless, animal rights advocates protested the park's treatment program, arguing that it constituted unjustifiable cruelty against the rats. Local animal rights activist Robert Puddicombe, a Santa Barbara bus driver and founder of the Channel Islands Animal Protection Association, undertook direct action in November of 2001. He and companion Robert Crawford traveled to East Anacapa Island in a small boat and surreptitiously scattered pellets of Vitamin K, an effective antidote to the anticoagulant that the park was using to poison the rats. A park official observed their actions and reported them to law enforcement rangers, who apprehended the two men as they attempted to return to the mainland.

Puddicombe's actions brought the park's restoration program to the attention of other animal rights activists and, within days of his arrest, the Fund for Animals joined Channel Islands Animal Protection Association in filing a lawsuit against the National Park Service.[1038] The plaintiffs claimed that the Anacapa Island Restoration Plan violated, among other things, the Migratory Bird Treaty Act, because the application of Brodifacoum could kill some of the migratory ground-nesting birds that used Anacapa Island. In fact, some mortalities did occur in spite of the park's best efforts to limit the negative effects of the rodenticide.

The US Fish and Wildlife Service, which administers the Migratory Bird Treaty Act, was a major supporter of the rat eradication project and was represented on the Trustee Board that funded the project. The agency initially had resisted giving the National Park Service the permit because they said it was not necessary and would establish a precedent that an unintentional take *required* a permit (authors' emphasis). Nevertheless, at the urging of the Park Service, it issued one anyway and argued that the long-term benefits of the restoration plan outweighed its short-term negative impacts. In effect, the take (avian deaths) resulting from the park's application of the rodenticide would be a one-time impact with negligible consequences for the populations of the affected bird species, while the rats not only had the potential to negatively impact the nesting populations indefinitely but could ultimately threaten the species with extinction. After the agency issued its decision, the plaintiffs modified their suit to include the USFWS claiming that it violated the National Environmental Policy Act and the California Environmental Quality Act by issuing the permits to the National Park Service, allegedly without due procedural compliance. The full implementation of the restoration plan was delayed as a result of this litigation until the beginning of December 2001. Park resource managers had hoped to begin application of the rodenticide in the late fall when rodents were experiencing the greatest resource stress and were therefore most likely to accept the bait. By December, winter rains had begun and food resources on the island were beginning to rally. As it turned out, this setback

1038 The Fund for Animals was founded in 1967 by author and animal rights advocate Cleveland Amory. Amory, who died in 1998, was directly involved on several occasions with issues related to the Channel Islands. In 1980, for example, he confronted Superintendent Ehorn over the eradication of feral rabbits on Santa Barbara Island. Later, in 1983, he successfully stopped the culling of exotic goats on US Navy-owned San Clemente Island. In the latter instance, Amory had the animals removed and transported to a ranch owned by the Fund for Animals.

had little effect on the success of the program, but at the time it caused considerable frustration among program managers.[1039]

Court briefings concluded on November 26, and a hearing was held the following day. To the relief of the defendants, the court quickly denied the plaintiffs' initial claim that the USFWS had been in violation of law when it issued the National Park Service an incidental take permit. Judge Ellen Segal Huvelle also noted that courts generally held that an unintentional take of migratory birds did not require a permit, confirming the opinion of the USFWS. She concluded that the injunction sought by the plaintiffs would be detrimental to the public interest by endangering the existence of murrelets and other ground-nesting birds and wasting close to $500,000 in *American Trader* funds. She also dismissed the related charge that Channel Islands National Park was violating the NPS Organic Act and agency management policies by implementing a treatment program that would adversely affect nontarget species, a consequence the plaintiffs claimed had not been adequately addressed by the defendant. Judge Huvelle observed that the plaintiffs' narrow interpretation of NPS management policies on this matter would prevent control of any pest species in the parks at all. She agreed with the federal agencies that the treatment program would have a long-term benefit for nontarget native species, even though it might adversely affect some individual animals in the short term.[1040]

Subsequent deliberations were limited to the question of whether the park was acting in accordance with relevant environmental laws, primarily NEPA, in the implementation of its restoration plan. Judge Huvelle concluded that there had been no substantial violations. As to the plaintiffs' allegation that the park had not adequately addressed the consequences of its plan, she pointed to the exhaustive work represented by the Final Environmental Impact Statement, which park resource managers had prepared in advance of the program, and reached a contrary conclusion. She wrote, "Unlike many environmental impact statements that have been successfully challenged, the Park Service's EIS is a thoughtful, detailed document." On November 29, 2001, Judge Huvelle denied all of the plaintiffs' claims, including their request for an injunction to delay implementation of the Anacapa Island Restoration Plan.[1041]

Robert Puddicombe and Robert Crawford were charged with a violation of federal law for attempting to feed wildlife and interfering with a National Park Service program. Crawford pleaded guilty to the charges and was sentenced to two years of probation, fined $200, and instructed to keep off the Channel Islands for two years. Puddicombe opted to plead not guilty and be tried by a judge. His trial occurred almost two years after the event, on July 10, 2003. He faced a potential penalty of a year in jail. The eyewitness testified that there were two individuals on Anacapa Island. He saw one person spreading pellets from a distance; he never saw both people spreading at the same time. Because Crawford had already pleaded guilty and there wasn't proof beyond a reasonable doubt that more than one person spread the bait, Puddicombe was found not guilty. He was pleased with the verdict, remarking that, "I only wish the animals on Anacapa could have gotten the same fair trial I did. . ." In statements to the press, he affirmed his opposition to the park's restoration efforts on Anacapa Island, which he believed represented the unfair demonization of one animal in order to return the island to an idealized

1039 Kate Faulkner interview, August 5, 2009.

1040 United States District Court for the District of Columbia, *The Fund for Animals et al. v. Fran Mainella* et al., Civil Action No. 01-2288 (ESH), November 29, 2001.

1041 Ibid.

past. "It's a topsy-turvy world when poisoning wildlife from helicopters is a good thing and feeding wildlife is a crime," he commented. "As far as I'm concerned, this is like ethnic cleansing; it's a jihad against nonnative species."[1042]

A portion of the *American Trader* funds the park had received in 2000 for the Anacapa Island Restoration Plan were devoted to organizing a Scripps's Murrelet Monitoring Team to inventory baseline data on the bird's population size and breeding success prior to treatment of the rats and to monitor post-treatment conditions. The team included researchers from the Channel Islands National Marine Sanctuary, California Institute of Environmental Studies, Humboldt State University, and Hamer Environmental. Researchers used a variety of techniques for monitoring, even radar, but the most effective proved to be spotlighting.[1043] They took small boats at night to sites offshore of known or suspected murrelet nesting areas. Shining a spotlight across the surface of the water, they were able to count the birds sitting on the water. Intensive monitoring occurred between 2000 and 2003, with more limited monitoring continuing until 2005 under the direction of seabird biologist Darrell Whitworth of the California Institute of Environmental Studies. The data collected over this five-year period convincingly demonstrated that rat predation had been a significant negative pressure on the murrelet and other seabird populations, and that treatment of the rats had removed this pressure. Following the eradication of the rats in 2002, recorded murrelet nesting attempts increased by 42%. Hatching success increased from 42% to 80% by 2003 and 96% by 2005. During the same period, nest depredation fell from 52% to 7%.

Ironically, the remaining depredation was caused by native deer mice that were also recovering after the black rats were gone. This phenomenon did not concern the project managers because deer mice are not as aggressive or opportunistic as rats and the scientists did not expect them to have more than an incidental effect on the nesting birds. Even more interesting to the monitors than the rise of nesting success was the increase in the overall size of the murrelet colony. By 2005, an additional 10 nest sites were discovered outside the original sampling area. Early nests had all been in sea caves while the new nests were on exposed cliffs or rocks outside of sea caves, suggesting that the birds felt less threatened and were able to colonize more open areas. Although growth in the murrelet population was slow, owing to the bird's natural reproductive habits, researchers estimated that sufficient nesting habitat existed on Anacapa Island to potentially support thousands of nesting pairs.[1044]

In 2003, even as Robert Puddicombe was going to trial for trying to sabotage the park's restoration plan, seabird biologist Darrell Whitworth discovered two Cassin's auklet nests on West Anacapa Island. Both nests successfully fledged at least one chick. This was the first time in more than 70 years that a Cassin's auklet had been known to nest on Anacapa Island. It had taken less than two years from the eradication of black rats for these birds to begin coming back. As Whitworth commented, "Birds you would expect to see here are actually here. That's a good

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1042 Daryl Kelley, "Activist Not Guilty of Impeding Rat Killings," *Los Angeles Times*, July 11, 2003.

1043 The radar equipment was used on a trial basis by Hamer Environmental. It ultimately proved ineffective because electronic "noise" generated by ocean waves made it difficult for the instruments to detect the low-flying birds. Another drawback was the difficulty of distinguishing one bird species from another with similar flight patterns and habits, such as the Cassin's auklet. Thomas E. Hamer, Sarah M. Schuster, and Douglas Meekins, "Radar as a Tool for Monitoring Xantus's Murrelet Populations," *Marine Ornithology* 33 (2) 2005, 81-87.

1044 Darrell L. Whitworth et al., "Initial Recovery of Xantus's Murrelets Following Rat Eradication on Anacapa Island, California," Ibid., 131-137.

sign for the island."[1045] He and other scientists were optimistic that nesting populations of pigeon guillemots and ashy storm-petrels could also become established or expand on Anacapa Island after the eradication of predators.[1046]

THE PIGS OF SANTA ROSA ISLAND

The eradication of black rats on Anacapa Island was not the first exotic species program that Kate Faulkner managed after becoming chief of resources. As she went on duty in early 1990, the park had just received the first of three years of funding for the eradication of feral pigs from Santa Rosa Island. The precise origin of these pigs is not known, but they were present long before the Vail & Vickers Company took over in 1902. Earliest mention of the animals is associated with Alpheus Thompson, who was known to have raised "a lot of hogs" on the island sometime after 1844. By the time Vail & Vickers arrived, the pigs were well-established. The Vails always considered the animals a nuisance and regularly hunted them just to keep down the population. They claimed that the hogs ate the cattle's molasses blocks and dug up valuable soil that caused erosion, encouraged weeds, and reduced pasture productivity. In 1949, N. R. Vail introduced hog cholera, which initially resulted in about 80% mortality, but later proved less effective. He abandoned the experiment in the mid-1950s. Thereafter, hunting remained the only artificial control on the pig population, and ranch vaqueros shot the animals on sight. However, this pressure had less effect on the pigs than seasonal variations in food and water.[1047]

When the National Park Service acquired the island in 1986, park resource managers quickly recognized the gravity of the impact caused by the pigs. Far more than just a nuisance, the animals threatened many endemic natural resources on the island. Park scientists Gary Davis and Bill Halvorson made the following assessment:

> *Severe damage to native species and plant communities from pig activity is apparent over the entire island. Pig rooting, combined with prevailing winds, greatly accelerates soil erosion. This is most notable around the roots of endemic island oak, Quercus tomentella. In addition, there is a complete absence of young oaks (<75-125 years of age) which appears to be a result of alien pig, deer, Odocoileus hemionus, elk, Cervus canadensis, and cattle foraging on acorns and seedlings. Other signs of pig activity abound on the island, particularly rooting in search of native bulbs, tubers, and invertebrates in softer soils. Pigs also compete with native foxes for food, prey on native ground nesting birds, amphibians, and reptiles, and destroy herpetofaunal habitat.*[1048]

In addition to impacts on natural resources, park officials also expressed concern over damage to archeological sites. The General Management Plan and, subsequently, archeologist Don

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1045 Jenifer Ragland, "Rare Bird Hatches a Comeback," *Los Angeles Times*, June 2, 2003; Chuck Graham, "The Xantus's Murrelet of Anacapa Island," *Birding* (May/June) 2007, 46-51.

1046 Whitworth, "Initial Recovery, 2005."

1047 Livingston, "Island Legacies," 295-97. Livingston references transcripts of oral histories of Margaret Vail Woolley and Al Vail made through the Santa Cruz Island Foundation.

1048 Gary E. Davis and William H. Halvorson, "A Resource Management Proposal to Remove Feral Pigs from Santa Rosa Island, Channel Islands National Park, California," April 11, 1990, PWRO Library Natural Resources File Cabinet, N1615, "CHIS Feral Pig Removal."

Morris estimated that 90% were being adversely affected. The park's enabling act stipulated that the National Park Service "protect the nationally significant natural, scenic, wildlife, marine, ecological, archaeological, cultural, and scientific values of the Channel Islands." The agency's own management policies specifically recommended eradication of exotic species to ensure protection of these values, stating that:

> *Management of populations of exotic plant and animal species, up to and including total eradication, will be undertaken wherever such species threaten park resources or public health and when control is prudent and feasible. Examples of threatening situations include ... damaging historic or archeological resources; interfering with natural processes and the perpetuation of natural features or native species (especially those that are endangered, threatened, or otherwise unique).*[1049]

These mandates clearly justified the eradication of feral pigs on both Santa Rosa and Santa Cruz Islands.

Figure 9-2. Park officials documented damage to archeological sites by pigs rooting through the soil.
Source: Photograph in 2005 by unknown photographer. CINP Digital Image Files.

1049 NPS, "Management Policies," 1988, Chapter 4:8.

Eradication (1987–1993)

The eradication of feral pigs had been a formal objective of the park since at least the mid-1980s, when it was proposed in the GMP.[1050] In August 1987, the park hosted a workshop to develop a treatment plan for Santa Rosa Island that brought land managers with experience in pig eradication from Hawaii and other parts of California. The proposal acquired greater urgency over the next few years in response to a drought that reduced the pig population by more than half from an estimated 4,000 to fewer than 2,000. The remaining pigs were under stress as their food resources diminished, making this an ideal time to implement the proposed eradication program. By the end of the decade the drought had persisted for three years and was not expected to last much longer, so it was imperative that action be taken quickly. Park scientists Davis and Halvorson prepared an environmental assessment with a Finding of No Significant Impact and a final treatment plan. They submitted it to the NPS Regional Office in July 1990 where it was formally approved.[1051]

With the initial planning complete, the project moved to its second phase, the design and implementation of a monitoring program. The park hired wildlife biologist Carmen Lombardo to survey the island and closely evaluate the pig population, assessing its size, distribution, habits and other useful characteristics. Lombardo divided the island into seven management zones, corresponding to natural features and existing cattle fencing. He then made aerial censuses over several weeks in January 1991. These were later supplemented by partial transect surveys of each zone. Based on these efforts, he estimated that the feral pig population numbered about 1,400. Park officials determined that eradication efforts could be implemented islandwide, rather than first isolating each zone with fences and proceeding sequentially. The park advisors felt that with the pigs at low numbers and very hungry, hunters had a slightly better than even chance of being successful without fencing. Because fencing was estimated to cost $1,000,000, proceeding without it was the only option in the short term.

The park had originally expected to begin treatment the previous November, but a protest over the contract bidding had caused delays. Wayne Long of Multiple Use Management, the same company that managed elk and deer hunts on Santa Rosa Island, secured the contract for $310,000.[1052] Implementation of the actual treatment began on March 6, 1991. Over the next 11 months, Multiple Use Management, park staff, and ranch hands killed a total of 1,175 pigs using a variety of methods ranging from aerial gunning from helicopters to systematic ground hunts. No pig sign was detected after March 1993, and the population was presumed to be eliminated. The entire program had cost $780,000 over a period of three years. This was $15,000 under budget allowing the remainder to be returned to the NPS Regional Office for redistribution to other natural resource programs.[1053]

1050 DOI, NPS, "General Management Plan: Channel Islands National Park, California," 1985.

1051 Davis and Halvorson, "A Resource Management Proposal," 1990.

1052 On Multiple Use Management, see business' own website, http://www.mumwildlife.com; also Terry Lee Anderson and Donald Leal, *Enviro-Capitalists: Doing Good While Doing Well* (Lanham, MD: Rowman & Littlefield, 1997) 73-75.

1053 CINP superintendent to Western Regional Director, Oct. 1, 1991, PWRO Library Natural Resources File Cabinet (N1615, CHIS Feral Pig Removal); Carmen Lombardo and Kate Faulkner, "Eradication of Feral Pigs (Sus scrofa) from Santa Rosa Island, Channel Islands National Park, California," in *Proceedings of the Fifth California Islands Symposium*, March 29 - April 1, 1999 (Santa Barbara, CA: DOI, Minerals Management Service, 1999). Of the 1,175 pigs killed, systematic ground hunts resulted in the deaths of 816; ground hunts with dogs in 88; road hunts (from vehicles) in 4; aerial hunts (from helicopters) in 261; and trapping in 6.

While this eradication program was going on, the park hosted a series of site visits to Santa Rosa Island to discuss the potential for managing the impacts of invasive exotic species on natural ecosystems. The first of these occurred in April of 1991, when Superintendent Mack Shaver hosted a group of regional NPS scientists led by Associate Director for Natural Resources Dennis B. Fenn from the Washington, DC, office, a soil scientist by training and practice who knew a great deal about the challenges of soil erosion and restoration. The scientists were particularly impressed by the seriousness of the erosion problem resulting from overgrazing by introduced livestock and pigs.[1054]

Later that same month the park hosted another site visit to Santa Rosa Island, but this time the response was markedly different. Rather than agency scientists, the park invited members of the public, including many animal rights activists who were critical of the pig eradication program. Among these was Melissa O'Brien of Concerned People for Animals, a local nonprofit based in Simi Valley. O'Brien and other activists believed that the park's treatment program was both cruel and unnecessary, because they did not believe the pigs posed any serious threat to the island environment. As O'Brien later commented in the *Los Angeles Times*:

> *Last month, I went on a press trip to the island so I got to see firsthand the so-called damage. I was amazed it was so minimal! My little dog does more damage in half an hour than the pigs have done since the 1800s. I really don't know what the big deal is. I see more damage done to this planet every day by humans. The majority of vegetation [on Santa Rosa Island] was still intact. And what about the damage from cattle ranching?*[1055]

If anything was to be done at all, the animal rights activists preferred that the Park Service use a nonlethal solution. They suggested a range of alternatives, including capturing the pigs and transporting them off the island, neutering them, or restricting them with fences to a single "sacrificial" zone on the island itself. None of these proposals was really practical. The first had actually been considered but the US Department of Agriculture opposed it fearing that the pigs carried a contagious herpes virus that might be introduced to the mainland. Neutering and fencing were both too expensive, requiring expenditures that would continue indefinitely, and neither method was considered reliable. Later Kate Faulkner recalled:

> *The press trip with the animal rights group was at the beginning of the pig eradication contract. We were able to show the press significant damage by pigs. The press turned to the animal rights folks and said "you know, the NPS does have a problem here. How do you propose to solve it?" The animal rights people had a lot of "solutions" that would clearly not work (like fence off half the island and give that to the pigs and restore the other half). So, the animal rights people lost credibility in the eyes of the press.*[1056]

By this time, active elimination of the feral pigs was already underway and the park continued with its original plan. Surprisingly, the animal rights community limited itself to these few public statements and made no formal protests. This relative silence contrasted markedly with the

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1054 Joanna Miller, "Scientists Tour Islands to Assess Damage to Nature," *Los Angeles Times*, April 8, 1991.

1055 "West County Issue Animal Rights," *Los Angeles Times* (Ventura County Edition), June 11, 1991.

1056 Kate Faulkner comment to Timothy Babalis, September 15, 2014.

response from animal rights activists to nearly every subsequent effort by the government to remove or eliminate exotic species from the Channel Islands.[1057] The benefits of the pig eradication on recovery of native vegetation and riparian areas were tempered by the continuing presence of deer, elk, and cattle. However, there was no longer the concentrated rooting of archeological sites.

In 1992, the park finally received its long-sought base increase to augment its Inventory and Monitoring program as one of three prototype parks. Superintendent Shaver and Resource Chief Kate Faulkner both felt the best way to implement the prototype program was to fully integrate it into her natural resource management program, not to create a 'stand-alone' work unit in her division. The outcome of this structural decision was a blending of purpose, personnel, and funds among monitoring, restoration, compliance, and all the myriad functions of park resources operations. Hence, the money was not earmarked and was available for resource management as well as for research.[1058]

THE STORY OF THE ISLAND FOX

Up to this time, key programs in the park's natural resource management had focused on the eradication of invasive exotic species such as black rats and feral pigs. There had been little need to actively protect or restore native species because these were generally able to recover on their own once the stress from exotic species was removed. This changed dramatically in the early 1990s when populations of the endemic island fox began plummeting on three of the Northern Channel Islands. Although the immediate cause of this crisis would be linked to a mainland intruder preying on another exotic animal, management efforts had to focus first on protecting the foxes to preserve the species from almost certain extinction before anything could be done to remove the animals that threatened it. Moreover, removal proved to be far more complex in this case than it had been with black rats and feral pigs because this introduction was not directly anthropogenic. It was only one part of a long cascade of ecologically related events in which humans had played a crucial role but were no longer the principal agents. The story of the

1057 Kenneth Weiss, "Santa Rosa Island Wild Swine Gathers Momentum," *Los Angeles Times*, April 24, 1991; Melinda Burns, "Island Faces New Natural Challenges," *Santa Barbara News-Press*, April 28, 1997; Kate Faulkner interview by Timothy Babalis, August 5, 2009. Transcript on file at CINP Archives.

1058 Gary Davis comment to Lary Dilsaver, February 20, 2019.

island fox illustrates not only the complexity of ecological relationships but their unity through time and across sometimes vast extents of space.

Figure 9-3. Two island fox pups.

Source: Photograph by Bill Faulkner, date unknown. CINP Digital Image Files.

The Channel Islands fox (*Urocyon littoralis*) is a distant relative of the more common gray fox (*U. cinereoargenteus*) found on the California mainland. Only about a third of the size of the mainland species, the island fox weighs between three and six pounds and is about the size of the average house cat. Island foxes are found on the six largest of the eight Channel Islands. They are not present on Anacapa or Santa Barbara Islands. Mammalian carnivores do not usually occur on islands, so the presence of both the fox and the island spotted skunk is unusual.[1059] Each island population represents a distinct subspecies. Joseph Grinnell described this distinction as early as the 1930s on the basis of subtle morphological differences that he and other biologists noticed among the foxes from each island, such as the number of tail vertebrae and, hence, the length of the tail. As a result, each island population has been given a distinct taxonomy (*Urocyon littoralis littoralis* for San Miguel Island; *U. l. santarosae* for Santa Rosa; *U l. santacruzae* for Santa Cruz; *U. l. dickeyi* for San Nicolas; *U. l. catalinae* for Santa Catalina; and *U. l. clementae* for San Clemente Island). Genetic testing has since confirmed this classification of the island fox into six distinct subspecies.[1060]

Genetic research has also provided clues to the origins and distribution of the island fox. It is descended from a single colonization by a small number of mainland gray fox that migrated to the Northern Channel Islands sometime between 10,000 and 16,000 years ago.[1061] At that time, Anacapa, Santa Cruz, Santa Rosa, and San Miguel Islands were united in the single island

1059 Kevin Crooks, "Demography and Status of the Island Fox and the Island Spotted Skunk on Santa Cruz Island, California," *The Southwestern Naturalist* 39 (3) 1994, 257-262.

1060 Bridget Fahey and Sandy Vissman, "Endangered and Threatened Wildlife and Plants; Listing the San Miguel Island Fox, Santa Rosa Island Fox, Santa Cruz Island Fox, and Santa Catalina Island Fox as Endangered," 50 CFR Part 17, *Federal Register* 69.44 (5 March 2004), 10335-10353.

1061 Ibid., 10335.

Santarosae as a result of lower sea levels. The channel between Santarosae and the mainland coast was also much narrower, facilitating passage of flora and fauna, like the fox, across it. Over time, the foxes developed unique adaptations to their island environment, growing smaller in size, for example. They also developed unique behavioral characteristics, becoming both habitat generalists and omnivorous in diet to take optimal advantage of the limited resources of the islands. Foxes feed on native mice and ground-nesting birds, insects like grasshoppers and Jerusalem crickets, and the fruits and berries of a wide variety of native plants. They also have relatively low reproductive rates. The females tend not to breed until older, and typical litter size ranges from two to three pups, though occasionally as many as five. The foxes are generally monogamous and breed, at most, once every year. Their relatively conservative reproduction means that preservation of a healthy population is strongly dependent on the survival of adults, which was not a problem until recent times, since the foxes have no native predators on the islands.[1062] This absence of predators also has resulted in some notable behavioral idiosyncrasies in the island foxes, the most obvious being their general lack of wariness. The island foxes appear docile and inquisitive, often showing little fear of humans. They also remain active during much of the day instead of being primarily nocturnal like their mainland cousins.

Humans have been present on the Channel Islands possibly as long as the island fox and have played an important role in the distribution of these animals. Archeology reveals evidence of intentional burying of island foxes on Santa Rosa and Santa Cruz Islands. The association of these interments with human burial sites suggests that the native Chumash probably kept them as pets. They may have introduced the earliest ancestors of the island fox from the mainland, though this remains uncertain. It is also possible that the first foxes arrived on their own by drifting across the narrow channel separating Santarosae from the mainland on rafts of vegetation washed out to sea by storms. Genetic evidence, however, strongly suggests that the Chumash brought the island fox from their original home in the northern islands to the southern Channel Islands of Santa Catalina, San Clemente, and San Nicolas, perhaps no more than 5,200 years ago. Excepting humans, the island fox is the largest of only four species of nonflying mammals native to all or some of the Channel Islands. The others include the deer mouse, the spotted skunk (*Spilogale gracilis amphiala*), and the western harvest mouse (*Reithrodontomys megalotis*).[1063]

A Collapsing Population

Lyndal Laughrin conducted the earliest formal studies of the island fox during the 1970s for his doctoral dissertation at the University of California, Santa Barbara.[1064] Laughrin did his fieldwork on Santa Cruz Island from 1973 to 1977 by which time he had become director of the university's Santa Cruz Island Reserve.[1065] The National Park Service began monitoring the island fox in 1993. This came as a result of the base fund increase for the park's natural resource division budget in 1992, allowing the park to hire biologist Timothy Coonan to develop a terrestrial monitoring program. Coonan supervised wildlife biologist Cathy Schwemm and

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1062 Ibid., p.10336.

1063 Ibid., pp.10335-10336; Timothy J. Coonan, Catherin A. Schwemm, and David K. Garcelon, *Decline and Recovery of the Island Fox* (New York: Cambridge University Press, 2010).

1064 Lyndal L. Laughrin, "The Island Fox: A Field Study of its Behavior and Ecology," Ph.D. dissertation, University of California, Santa Barbara, 1977. See also, Laughrin, "Populations and Status of the Island Fox," in D. M. Power, ed., *The California Islands: Proceedings of a Multidisciplinary Symposium* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1980).

1065 Gary Polakovic, "Biologist Finds Purpose on His Island Home" *Los Angeles Times*, August 21, 2000.

botanist Sarah Chaney who were also brought on that year with the new funding. Among the various terrestrial animals selected for monitoring was the island fox. This was a natural choice because the foxes were endemic to the islands and represented the only significant predator. Occupying the top niche of the food chain, they were a keystone species in the island ecology. Resource managers also believed that they were vulnerable to disease. As members of the canid family, the island foxes are susceptible to the same maladies as domestic dogs, but because of their isolation from the mainland, island foxes lack the natural resistance that mainland canid species have developed. Park managers worried about the risk of accidental introduction of a canid disease through pet dogs brought over by visiting boaters or from ranch dogs on Santa Rosa Island. While this was not perceived to be an immediate threat, it raised enough concern to justify monitoring the foxes.

Cathy Schwemm began monitoring fox populations on San Miguel Island in 1993 as part of the park's long-term I&M program. Using a protocol that was developed during the late 1980s, Schwemm placed wire-cage traps along the lines of a large grid, capturing and counting foxes once every year. There were three grids comprised of 49 traps in a 7 x 7 array. It typically took a team of five a week to set up and run the grid.

She then released them back to the wild. Schwemm also tagged the captured foxes to facilitate identification and to distinguish between those she had counted and those she had not. Resource managers estimated the population density of the entire island by extrapolating from the numbers recorded along each grid line. This first census conducted on San Miguel Island resulted in an estimate of approximately 450 animals, considered a healthy population at or near the carrying capacity of the island.[1066] Also in 1993, Gary Roemer, a doctoral student at the University of California, Los Angeles, began researching the island fox population on Santa Cruz Island. This was the first time that the foxes had been formally studied here since Lyndal Laughrin's pioneering work in the 1970s, but the initial results suggested that little demographic change had occurred during the intervening two decades. Roemer estimated just over 1,300 animals and opined that, as in the case of San Miguel Island, this was near the carrying capacity for the island.[1067]

Gary Roemer originally proposed doing his research on Santa Rosa Island, but Al and Russ Vail, who managed the Santa Rosa Island ranch objected to his methods. They believed that trapping and tagging were inappropriate or cruel treatment of the island foxes. They also expressed concern that the scientists might introduce diseases by having so much contact with the animals.[1068] The National Park Service owned Santa Rosa Island by this time, but had given the Vails considerable latitude to control access to the island. The original permit negotiated in 1987 acknowledged the park's right to allow or conduct research on the island but suggested that the

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1066 Timothy J. Coonan, Catherin A. Schwemm, Gary W. Roemer, David K. Garcelon, and Linda Munson, "Decline of an Island Fox Subspecies to Near Extinction," (2005) *The Southwestern Naturalist*, 50, (1), March 2005, 32-41.

1067 Gary W. Roemer, "The Ecology and Conservation of the Island Fox," PhD dissertation, University of California, Los Angeles, 1999; Gary Roemer, David K. Garcelon, Timothy Coonan, and Catherine Schwemm, "The Use of Capture-Recapture Methods for Estimating, Monitoring and Conserving Island Fox Populations," in W. L. Halvorson and G. J. Maender, eds., *The Fourth California Island Symposium: Update on the Status of Resources* (Santa Barbara, CA: Santa Barbara Museum of Natural History, 1994); Fahey, Bridget and Sandy Vissman. "Listing the San Miguel Island Fox, Santa Rosa Island Fox, Santa Cruz Island Fox, and Santa Catalina Island Fox As Endangered." *Federal Register* 69 (44) 2004,10338.

1068 This explanation was offered by Nita Vail in conversation with Timothy Babalis, September 25, 2009.

agency make a "reasonable effort to refrain" from interrupting the ranching operations.[1069] Although the park could have insisted on providing access for fox researchers, Superintendent Mack Shaver was in the midst of negotiations for a new SUP and was not interested in pressing the issue. There seemed to be no compelling reason to risk exacerbating the park's difficult relationship with the Vails.

By 1994, researchers on Santa Cruz Island began to notice a sharp decline in the fox population. A year later, researchers monitored the foxes on San Miguel Island where the population fell alarmingly from an estimated 450 to about 40 over the next four years. The situation on Santa Cruz Island was less dramatic but still grave, and Gary Roemer quickly adjusted the focus of his research to address the new crisis. Although managers lacked baseline inventories for Santa Rosa Island, they suspected that the island fox population was declining there as well. Their fears proved correct when only 14 surviving animals were found on the island at the beginning of the captive breeding program in 2000.[1070]

At the time, the only good fortune appeared to be that monitoring had begun prior to the beginning of the crisis. Not only did this alert resource managers that the foxes were in trouble, it also provided them with pre-crisis baseline data that allowed them to make comparative assessments of the situation as the crisis developed. The value of this information was augmented by the fact that two pre-crisis data sets were available, one from the 1970s and another from the early 1990s. Because the island fox population had remained relatively stable over the intervening 20-year period, it was possible to confirm that the crisis began in 1994 and not earlier.

Although island foxes also occur on the Southern Channel Islands, San Clemente, San Nicolas, and Santa Catalina, the same crisis was not in evidence there. On San Nicolas and San Clemente, where the US Navy has bases, the greatest threat to the foxes was being hit by speeding drivers on the miles of paved roads. On Santa Catalina, the only island with a substantial human population, the fox population appeared stable for most of the 1990s, numbering approximately 1,300 animals. Beginning in 1998, however, this population also suffered a crisis, declining by more than 90% in one year. Nearly all of this decline occurred on the larger, eastern portion of the island where the town of Avalon is located and was eventually attributed to an outbreak of canine distemper introduced by raccoons. The raccoons had come inadvertently to the island as stowaways in visiting boats.[1071] Although this crisis on Santa Catalina occurred within a few years of the equally catastrophic decline on the northern islands, the two events proved to be unrelated.

1069 "Issuance of this permit does not preclude use of the property by the National Park Service for recreational and research purposes or the right to establish trails, roads, or other improvements or uses that are consistent with the purposes of the National Park. *However, the National Park Service will make every reasonable effort to refrain from exercising such right or allowing such recreational or research use to the extent that such actions would unduly interfere or prevent the use of the land by the Permittee for the purposes intended under this permit.* NPS, "Special Use Permit," 1987 [emphasis by authors].

1070 Hilary MacGregor, "Rare Island Foxes Dying," *Los Angeles Times*, August 16, 1998.

1071 By 1999 the island fox population on Santa Catalina Island had dropped to about 100. Nearly all of these survivors were confined to the western quarter of the island, which is separated from the remainder of Santa Catalina Island by a narrow isthmus. Fortunately, this narrow isthmus proved to be an effective barrier against the spread of the viral contagion. Coonan et al., *Decline and Recovery of the Island Fox*, 74-80.

Searching for an Explanation

At first, the cause of the sudden decline in the fox population was unknown and park resource managers suspected disease. Biologist Tim Coonan noted that preliminary testing on San Miguel Island revealed both canine ideno virus (which causes hepatitis) as well as a parasitic nematode (*Angiocaulus gubernaculatum*). Coonan thought these maladies could have been introduced by pet dogs that boaters had brought over. But he soon dismissed disease as the ultimate source of the crisis because only a few deaths could be attributed to it. More importantly, the parasitic nematode was not found among foxes on Santa Cruz and Santa Rosa Islands, even though fox populations there were suffering a similar decline. Parasitism did later become a more serious problem on San Miguel Island when foxes were confined in cages during the captive breeding program, but scientists believe parasites have had only a minor effect on the original wild population.[1072]

Another potential factor that resource managers considered was malnutrition due to declining availability of food. They dismissed this idea after monitoring showed that most of the foxes had good body weight and obviously suffered from no shortage of resources. In a minority of cases where malnutrition was discovered, it was found to occur in association with disease or parasites. Managers also did studies on the food sources of island foxes such as the native deer mouse. However, the rodents' population was not only healthy, but actually increasing as the fox population declined. Island deer mouse populations increased during the study period from 400 per hectare to as many as 1,000 per hectare. This was undoubtedly because fewer foxes were hunting the mice and it clearly showed that lack of food was not the problem.[1073]

Scientists also suspected predation by avian raptors such as golden eagles or red-tailed hawks. They knew this was occurring, but few at that time believed predation alone could be responsible for the observed rate of decline, though many thought it might be a contributing factor. Since further research was needed, the park applied for and received a $50,000 grant from Canon USA to initiate a more robust monitoring program. Using this money, resource managers were able to fit eight San Miguel Island foxes with radio collars in late 1998.[1074] These collars were equipped with mortality sensors, which broadcast an alarm if the fox ceased moving for a prescribed period of time. These would allow researchers to recover the fox carcasses as quickly as possible after death occurred to determine the cause of death more easily. Within several weeks of release, all but one of the radio-collared foxes were dead. Five of the seven carcasses showed unmistakable evidence of predation by a large raptor including degloving, or peeling back of the skin, and talon-induced puncture wounds. On Santa Cruz Island, where monitoring also continued, the figure later proved to be 80%. Moreover, eagle feathers were discovered at two of the mortality sites on San Miguel Island. When linked with anecdotal accounts of eagles observed in the vicinity of the dead foxes at about the same time they were

1072 Timothy J. Coonan et al., "Decline of an Island Fox Subspecies," 2005; A meeting of experts on disease and parasites was convened by the Institute for Wildlife Studies in early 1999. They concluded that disease or parasitism were probably not responsible. Coonan et al., *Decline and Recovery of the Island Fox*, 49.

1073 Timothy J. Coonan, "Decline of an Island Fox Subspecies," 2005.

1074 Hilary MacGregor, "Rare Island Foxes Dying," *Los Angeles Times*, August 16, 1998; Coonan et al. *Decline and Recovery of the Island Fox*, 50.

killed, the identification of the golden eagle (*Aquila chrysaetos*) as the source of the population decline seemed increasingly plausible.[1075]

The relationship between golden eagle predation and the island fox crisis was largely confirmed the following year when scientists investigated an eagle nest they located at Coche Point on Santa Cruz Island during a helicopter survey of feral sheep. Examination of the nest revealed that it had been active since 1997 and that foxes represented a portion of the eagles' diet in addition to other small mammals, especially feral piglets. This discovery and similar subsequent finds allowed the researchers to begin piecing together the various parts of the complex story of the island fox and its decline. Gary Roemer proposed a "hyperpredation" model to interpret the evidence that had been collected up to that time. According to this model, the island foxes were not the primary target of eagle predation, because they were neither sufficiently numerous nor fecund enough to attract and sustain a resident colony of golden eagles. Feral pigs (*Sus scrofa*), however, were. These exotic animals were remarkably fertile, able to produce up to three litters in a given year. Although mature pigs were too large and aggressive to be hunted by the golden eagles, the young piglets represented ideal prey, while the fecundity of the species allowed the local population to sustain even robust predation without significant diminution. The feral pig was, in short, the principal attractant of the golden eagle and the reason this otherwise alien raptor was able to colonize the Northern Channel Islands. The collapse of the island fox, according to Roemer's hyperpredation model, was simply an indirect consequence of a chain of events that had little to do with the fox itself.

Roemer's hyperpredation model was later corroborated by further, systematic investigation of golden eagle nest contents. Biologist Brian Latta of the Santa Cruz Predatory Bird Research Group began formal research in 2004 on golden eagle diet in the Northern Channel Islands. His work showed that piglets constituted approximately 60% of the nest detritus on Santa Cruz Island. On Santa Rosa Island, interestingly, Latta found that mule deer fawns constituted the largest percentage of detritus, totaling approximately 40%.[1076] By the time of his investigation, feral pigs had been eradicated from the island, but deer and elk were still common. Elk calves are too large for the eagles to hunt, but deer fawns are not. They represented Santa Rosa's analog for the Santa Cruz Island piglet. The lower natural fecundity of mule deer relative to the pig suggests that deer alone might not have been able to sustain the golden eagle, but the pig population on Santa Cruz Island, which persisted until 2006, was able to subsidize populations of golden eagles that nested on Santa Rosa and Santa Cruz Islands. According to Gary Roemer, the golden eagles were sustained by these relatively stable populations of exotic mammals and were thereby enabled to prey opportunistically on the island fox as well.[1077]

Responses to the Crisis

As park resource managers began to appreciate the full gravity of the threat to the island foxes, they quickly acted to draw wider attention to the problem and solicit help from professionals outside the park. Early in 1999, NPS managers organized a group of experts to evaluate the

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1075 Gary Polakovic, "Mystery of Vanishing Foxes Ends," *Los Angeles Times*, April 3, 1999; and Coonan et al. Decline and Recovery of the Island Fox, 48.

1076 Paul W. Collins and Brian C. Latta, "Nesting Season Diet of Golden Eagles on Santa Cruz and Santa Rosa Islands, Santa Barbara County, California," Santa Barbara Museum of Natural History Technical Reports, No. 3, 2006.

1077 Gary W. Roemer, C. Josh Donlan, and Frank Courchamp, "Golden Eagles, Feral Pigs, and Insular Carnivores: How Exotic Species Turn Native Predators into Prey," *Proceedings of the National Academy of Sciences,* 99 (2) 2002, 791-796.

current status of the island fox and recommend appropriate recovery actions. This group became known as the Island Fox Conservation Working Group and comprised "a loose affiliation of public agency representatives, landowners, conservancies, zoological institutions, nonprofits, and academics."[1078] The first meeting of the working group convened in Ventura on April 21 and 22 of that year and drew 14 members. As reported by the press, the participants seemed shocked by the urgency of the crisis. Many believed that the foxes were in imminent danger of going extinct if strong measures were not taken immediately. A few such as Katherine Ralls of the Smithsonian Institution thought it was already too late and castigated the Park Service for not acting sooner. Park biologist Tim Coonan responded that funding for fox research had been difficult to obtain, in part because the foxes were not yet listed under the Endangered Species Act, but clearly it was too late to be assigning blame.[1079] The group eventually agreed on a list of recommended actions that needed to be taken in response to the crisis. Although five actions were discussed, in essence these amounted to basically two strategies: protect the remaining foxes from further harm and remove the source of the threat.[1080]

Both strategies needed more knowledge. Protecting the survivors, which by this time had diminished to as few as 15 individuals on San Miguel and Santa Rosa Islands, would require raising the animals in a captive breeding program, where it was hoped their population could be increased to sustainable numbers. However, this had never been done with island foxes, and husbandry protocols would have to be developed from scratch based on conjecture and experimentation. Removing the threat to the native fox populations was equally important for the animals' long-term survival because the captured foxes would not be able to return to the wild until the conditions that precipitated the original crisis were no longer present. But these conditions themselves were still not fully understood. Although everyone agreed by now that the principal immediate threat to the island fox was predation from golden eagles, more research was needed to understand the broader context from which this predation had originated. Not until the underlying reasons for the arrival of the golden eagles were fully understood could practical measures be taken to mitigate the problem.[1081]

First Protect the Survivors

The captive breeding program was a strategy of last resort. It required bringing all members of the wild population into captivity and raising them under artificial conditions. In effect, it amounted to the temporary extermination of the wild island fox population in the hope that it

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1078 Members of the working group were: Paul Collins (Santa Barbara Museum of Natural History), Tim Coonan, David Garcelon (Inst. for Wildlife Studies), Lyndal Laughrin, Phil Miller (Conservation Breeding Specialist Group), Linda Munson (UC Davis Department of Pathology, Microbiology and Immunology), Katherine Ralls (Smithsonian Institution), Gary Roemer (UCLA, just finishing his doctorate on island foxes in 1999), Ray Sauvajot (Santa Monica Mountains National Recreation Area), Grace Smith (US Naval Construction Battalion Center), Nancy Thomas (USGS Biological Resources Division, National Wildlife Health Center), Brian Walton (Santa Cruz Predatory Bird Research Group), Robert Wayne (UC Davis Department of Organismic Biology, Ecology and Evolution), and Mark Willett, DVM (veterinarian from Davis, CA).

1079 Gary Polakovic, "Island Foxes May Soon Die Out, Scientists Warn," *Los Angeles Times*, April 24, 1999.

1080 Timothy J. Coonan, "Findings and Recommendations from the Island Fox Working Group; Convened in Ventura, California, April 21-22, 1999," in Recovery Strategy for Island Foxes (*Urocyon littoralis*) on the Northern Channel Islands (Ventura, CA: NPS, CINP, 2003), 58. The five recommendations actually made were: (1) that the remaining animals on San Miguel Island and Santa Rosa Island be taken into captivity and a captive breeding program be initiated; (2), that golden eagles be captured and relocated off-island; (3), that a comprehensive species recovery plan be prepared; (4), that assistance be given to the USFWS to list island fox species under the Endangered Species Act (working group members believed this would assist them in obtaining more resources, especially funding); and (5), that bald eagles be reintroduced to the islands.

1081 Coonan et al., *Decline and Recovery of the Island Fox*, 72ff.

could be restored under improved conditions at some time in the future. At the very least, it offered some assurance that the species would survive even if it was no longer able to exist in its natural habitat or without active human support. The decision to implement any captive breeding program is made only when the alternative is likely to be extinction of the species or, in the case of the island fox, of at least two distinct subspecies. On San Miguel and Santa Rosa Islands resource managers planned to capture 20 but found fewer than that number still existed. Scientists cited two precedents for the proposed island fox captive breeding program—the California condor (*Gymnogyps californianus*) and the peregrine falcon (*Falco peregrinus*). The latter already showed signs of recovery in the wild. Both of these programs had been undertaken with the assistance of zoos, but the idea of locating captive breeding colonies of island foxes in existing mainland facilities, though compelling for the logistical advantages it would offer, was quickly rejected. Few zoos had sufficient capacity to accommodate the foxes, but an even more important consideration was the threat of disease. The island foxes evolved in an isolated environment where few diseases were present, and managers feared that the animals would not be able to tolerate exposure to mainland diseases that they would inevitably encounter in zoos if they were to stay in these facilities for very long. Instead, the working group decided to build separate captive breeding facilities on each of the islands where the program would be implemented, despite the logistical challenges of maintaining these facilities in such isolated locations.[1082]

Impelled by the urgency of the crisis, the park staff set about constructing pens for the island foxes on San Miguel Island almost immediately after the first meeting of the Island Fox Conservation Working Group that spring. The park set aside $31,000 for this purpose, while the National Parks Conservation Association started a fundraising campaign to assist the effort.[1083] The park also received a base funding increase of $477,000 in 2005 through the NPS Natural Resources Challenge.[1084] Park resource managers developed the original design for the pens based on structures used to house wolves, the closest available analogy. The pens consisted of chain-link fencing in an L-shape with sides approximately six feet high and roofs. Each pen contained a wooden kennel-like box for shelter and privacy. Park maintenance workers brought materials on boats, off-loaded them at the construction site by helicopter, and built the pens. The design was based on educated assumptions about the needs and habits of the island fox, but since there was little actual experience of raising these animals in captivity, many inadequacies or mistakes had to be corrected by later modifications.[1085]

Resource managers brought the first pair of island foxes into captivity on San Miguel Island in May of 1999, only one month after the decision to implement the captive breeding program.[1086] By January 2000, 14 island foxes had been captured, 4 males and 10 females. Only one very scrappy female remained in the wild. Later that year, the park initiated a captive breeding program on Santa Rosa Island. Workers built the pens there in February and March and capturing began immediately thereafter. By May of the following year, 14 foxes were housed

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1082 Ibid., 82.

1083 Gary Polakovic, "Capture Program Launched to Save Threatened Foxes," *Los Angeles Times*, May 20, 1999.

1084 Jack Fitzgerald interview with Ann Huston, Oct. 9, 2019. OFS Statement "Recover Endangered Foxes at Channel Islands National Park," NPS electronic database.

1085 Coonan et al., *Decline and Recovery of the Island Fox*, 82ff.

1086 Ibid., 83.

there. This proved to be the entire surviving population on Santa Rosa Island.[1087] When the Working Group met again in 2001, its members decided to initiate a captive breeding program on Santa Cruz Island as well. At least four golden eagles were still present on the island and the wild fox population continued to decline. Despite ongoing losses to predation, however, island fox numbers on Santa Cruz Island remained higher than on Santa Rosa or San Miguel, totaling about 50 or 60 at this time. As a result, managers elected to bring only a portion of the population into captivity. Ten pairs were captured by the end of the following year while the remainder were left in the wild.[1088] The Santa Cruz Island program was managed cooperatively between NPS staff and The Nature Conservancy, which owned the majority of the island. TNC contracted this work to the Institute for Wildlife Studies, a nonprofit organization that already had experience working with the island foxes on Santa Catalina Island for the Catalina Island Conservancy.[1089]

Researchers believed that the lesser population decline on Santa Cruz Island was due to the island having a more dense vegetation cover than was present on San Miguel or Santa Rosa Islands. This offered better protection from aerial predation. Although island foxes were inherently vulnerable to aerial attack owing to their diurnal habits and lack of wariness, this vulnerability was greatly exacerbated by the openness of the terrain on San Miguel and Santa Rosa Islands, where much of the larger woody vegetation had been eliminated by historic ranching activities. As park biologist Tim Coonan noted,

> *...the extent of oak woodlands, pine woodlands, chaparral, and coastal sage scrub was considerably less when eagles arrived than it was prior to grazing. For example, close to 80% of Santa Rosa is currently dominated by alien grassland ..., a vegetation community that provides considerably less cover from aerial predators than do shrub or tree communities. Likewise, San Miguel is slowly recovering from a history of sheep grazing ... and in the early twentieth century experienced a period of massive landscape stripping caused by overgrazing and extended drought .... The relative scarcity of shrub and tree habitats on San Miguel and Santa Rosa may partially explain why eagle predation reduced island fox populations on those islands to such low numbers, while on Santa Cruz, where there were more areas of tree and shrub cover, the decline was less steep.*[1090]

This greater vegetative cover on Santa Cruz was a natural consequence of the more complex topography and soil types on the island as well as historical practices that resulted in less removal of woody overstory than on Santa Rosa and San Miguel Islands.

The park completed the first captive breeding facility on Santa Cruz Island in 2002 and built a second facility in 2004. These new pens benefitted from the experience gained on San Miguel and Santa Rosa Islands. The first facility, located on the Isthmus, already reflected the most important innovation. Workers separated the pens from one another and augmented their relative isolation with screening vegetation, which provided a degree of privacy for each breeding pair. Though the point seemed obvious in retrospect, park biologists initially did not recognize the foxes' need for privacy. The proximity of the original pens to one another resulted

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1087 Ibid., 84.

1088 Ibid., 85.

1089 The Institute for Wildlife Studies was also involved in efforts to relocate golden eagles off island., Ibid. 73

1090 Ibid., 56-57.

in stress that compromised reproductive success.[1091] Several less obvious innovations were also introduced. Improved ventilation of the privacy structures in each pen reduced mold and mildew accumulation, which in turn reduced incidences of mastitis, a disease of the mammary glands of female foxes that had proved to be a significant cause of pup mortality. Another problem to be resolved with the new pens arose with male aggression toward females and pups. This may have resulted in some instances from an inaccurate pairing of mates by the biologists and exacerbated by the stress of captivity. The new pens contained additional privacy structures, providing females a place to retreat from an aggressive male. Increased separation of the pairs may have also reduced stress, resulting in less overall aggressive behavior. Introduction of more play toys in the pens helped by providing the innately curious and inveterately active foxes with something to occupy their time while in captivity.[1092] A final problem that proved to be something of a surprise was caused by wild foxes approaching the pens and instigating fights through the fencing material with the foxes inside. This became a significant problem after 2003, when captive foxes began to be released, and biologists had to encircle most of the facilities with a perimeter of electrified wire to keep the wild foxes away.[1093]

Figure 9-4. Island fox enclosures at the Windmill Site on Santa Rosa Island. Securing the foxes in these cages was a last-ditch effort to save them from predation by golden eagles. It resulted in a remarkable recovery of the islands' most popular animal after the birds were removed.

Source: Photographer and date unknown. NPgallery.nps.gov.

1091 Ibid., 85

1092 Ibid., 93-98.

1093 Ibid., (perimeter fence) 91.

Then Remove the Threat

The 1999 discovery of a nest at Coche Point on Santa Cruz Island proved that golden eagles had been breeding on the Northern Channel Islands at least since 1997, the year the nest originated. Researchers believed breeding actually may have begun a few years earlier.[1094] This timing correlated with the decline of the fox population, which became noticeable only after 1994. Evidence of golden eagle predation on the foxes left the connection between these two events beyond doubt.[1095] Removal of these birds from the Northern Channel Islands was therefore among the highest priorities of the working group, second only to protecting the foxes themselves. In 1999, the Park Service established a cooperative agreement with the Santa Cruz Predatory Bird Research Group to accomplish this task. The Institute for Wildlife Studies later assumed the capture and relocation efforts. Removal of the birds began later that year and continued through 2004, with a total of 41 golden eagles live captured on the islands and transported to Northern California.[1096] At least eight remained that eluded capture despite the ingenious methods attempted by their human pursuers. The ultimate success of this program depended on better understanding of why the golden eagles came to the islands in the first place, how to encourage the remaining birds to leave, and how to prevent future recolonization.[1097]

The golden eagle is a year-round resident of western North America, where it is found primarily in hilly or mountainous terrain. It typically feeds on small terrestrial mammals, such as squirrels and rabbits, which it hunts while soaring overhead or while perched in a prominent location.[1098] Although native to the California mainland, golden eagles were not usually found on the Channel Islands before the 1990s. Infrequent sightings recorded prior to that time represented transient, rather than resident, birds, though anecdotal observations suggest that breeding pairs may have arrived as early as 1987.

Their presence proved to be the result of several interrelated factors. First, the mainland population of golden eagles had been growing steadily since 1962, when Congress passed the Bald and Golden Eagle Protection Act to halt human depredations on these bird species. By the 1980s, golden eagle populations in California had recovered to the point where juveniles were beginning to compete for territory. This created pressure on the birds to expand their range. At the same time, the Northern Channel Islands offered an appealing opportunity for the young golden eagles because of an abundant supply of food that was available with the prodigious populations of feral pigs on Santa Cruz Island.[1099] During the late summer and fall, gut piles left by sport hunters were yet another inducement for the golden eagles. These introduced food sources provided sufficient resources to sustain a resident golden eagle population, allowing the

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1094 Brian C. Latta, Daniel E. Driscoll, Janet L. Linthicum, Ronald E. Jackman, and Gregg Doney, "Capture and Translocation of Golden Eagles from the California Channel Islands to Mitigate Depredations of Endemic Island Foxes," in David K. Garcelon and Catherin A. Schwemm, eds., *Proceedings of the Sixth California Islands Symposium* (Arcata, CA: Institute for Wildlife Studies, 2005).

1095 Nita Vail, whose opinion probably reflects that of other members of the ranching family, attributed the fox crisis to NPS mismanagement, noting that the golden eagles arrived on Santa Rosa Island only after the park eliminated the feral pigs on that island in 1992. However, studies of the nests on Santa Rosa Island had no bones of pigs and showed no evidence that golden eagles arrived prior to 1995, three years after eradication of the pigs.

1096 Brian C. Latta, Channel Islands Golden Eagle Translocation Program: Summary Report, 1999-2004. Report submitted to The Nature Conservancy and the NPS (Santa Cruz, CA: University of California, Santa Cruz Predatory Bird Research Group, 2005).

1097 Coonan et al. "Decline of an Island Fox Subspecies."

1098 David Allen Sibley, *The Sibley Field Guide to Birds of Western North America* (New York: Alfred Knopf, 2003).

1099 As noted above, feral pigs were eradicated from Santa Rosa Island in 1992.

birds to establish breeding colonies. This helps to explain why golden eagles had not colonized the Northern Channel Islands in the distant past, prior to the introduction of exotic animals. But the novel opportunity represented by these introductions could never have been exploited by the golden eagles if a territorial niche had not been left vacant for them by a second factor, the extirpation of the bald eagle (*Haliaeetus leucocephalus*).

The bald eagle used to be common throughout the Channel Islands. In the 1940s, Grinnell referred to the islands as one of two "breeding metropolises" in California, the other being the northeast corner of the state. Historical data suggest there were at least 24 breeding pairs nesting on the islands at the beginning of the 20th century, with possibly as many as nine pairs on Santa Rosa Island alone. While these figures represent a robust and viable population, there once may have been even more bald eagles here, since the species had experienced a decline in numbers during the 19th century as a result of shooting, poisoning, and egg collecting by recently arrived American immigrants.[1100] Mainland populations in Southern California disappeared in the 1930s as a result of these pressures exacerbated by loss of habitat through urban development, but the island populations were insulated from the worst of these impacts by their remote location and remained relatively healthy until after World War II.

Like the golden eagle, the bald eagle is territorial and will defend its home range against intruders. For this reason, park managers believed that an established population of bald eagles would effectively prevent colonization of the Northern Channel Islands by golden eagles so long as the bald eagles remained the dominant species. This had been the case over most of the distant past during which the island fox evolved as a distinct island species. Over this long period, the fox and the bald eagle coexisted with little conflict, because they rarely interacted. The bald eagle feeds primarily on fish, only occasionally hunting a terrestrial species like the fox. The bald eagle, however, competes for territory with other avian raptors like the golden eagle, even though the golden eagle does not compete with the bald eagle for the same food resources.

Prior to the introduction of nonnative ungulates on the islands there wasn't an adequate food supply to support golden eagles. By the time pigs, sheep, deer, and other animals were brought to the islands beginning in the mid-19th century golden eagle populations were being reduced on the mainland, and the bald eagles already held territories on the islands. Golden eagle populations began to recover on the mainland at the same time bald eagle numbers were declining. The disappearance of the bald eagles on the islands left a void and a plentiful food source for the golden eagles to move into the territory. The last confirmed bald eagle nest on the Channel Islands was reported in 1949. Adult birds continued to visit the islands for another decade, but by the early 1960s, the local population had disappeared.[1101] The reason for this population collapse was a complex chain reaction caused by a recently developed group of organochlorine chemicals known as DDT and PCB's, both of which were produced in massive quantities in Southern California. The origin of these chemicals and how they came to be associated with the local region is itself an important story. They are connected, either directly or indirectly, as in the case of the island foxes, with many of the natural resources of the Channel

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1100 Lloyd F. Kiff, "Historical Changes in Resident Populations of California Island Raptors," in D. M. Power, *The California Islands*, 651-73; and Jessica A. Dooley, Peter B. Sharpe, and David K. Garcelon, "Movements, Foraging, and Survival of Bald Eagles Reintroduced on the Northern Channel Islands, California," in David K. Garcelon and Catherin A. Schwemm, eds., *Proceedings of the Sixth California Islands Symposium* (Arcata, CA: Institute for Wildlife Studies, 2005), 313-321.

1101 "Appendix B: Restore Bald Eagles to the Channel Islands," in Montrose Settlements Restoration Program, Final Restoration Plan/EIS/EIR, October 2005.

Islands and constitute an integral part of the history and future of natural resource management in the park.

Organochlorines and Chronic Environmental Toxicity

DDT (dichloro-diphenyl-trichloroethane) is a chlorinated hydrocarbon that was first synthesized in 1874. In appearance, it is a white crystalline powder, which is nearly insoluble in water but dissolves readily in organic oils and fatty tissues. It smells weakly of chlorine, like swimming pool water. In 1939, a Swiss chemist named Paul Müller accidentally discovered DDT's potential as an insecticide. Even trace amounts of the chemical were sufficient to kill all of the insects in his test population. Just as significantly, the chemical appeared to be harmless to mammals, including humans.[1102] These qualities made it an ideal insecticide. Its use against malaria-carrying mosquitoes proved so effective that it appeared almost miraculous. Adding to the mystique of DDT was the fact that it was the world's first synthetic pesticide which at the time seemed to demonstrate both the promise and power of modern science. Paul Müller was later awarded the Nobel Prize for his discovery.[1103]

World War II, which followed almost immediately after the discovery of DDT, contributed to the popularity of the new pesticide, especially in the United States. In 1942, the Swiss pharmaceutical company Geigy that employed Müller, sent a small quantity of the chemical to its American office, where it was eventually produced in enormous quantities for use by the US Army. Mosquito-borne diseases like malaria and typhus had become serious challenges for American troops fighting overseas, especially in the Pacific theater, where as many as 500 of General Douglas MacArthur's men were succumbing to typhus fever every day. The US Army began dumping thousands of gallons of DDT on Pacific islands from B-25 bombers, successfully overcoming the disease and allowing American forces to continue fighting. DDT was credited with helping to win the war.

By 1945, American manufacturers were producing more than 2,000,000 pounds of DDT a month. Demand for the pesticide remained high even after the war ended, with peacetime use including control of agricultural and forest pests.[1104] Foresters used DDT to contain the spread of Dutch Elm Disease by targeting the bark beetles that carried it. It was widely and indiscriminately sprayed in towns and suburbs throughout the United States to eliminate common insect pests like mosquitoes, gnats, and flies. In 1955, the World Health Organization further stimulated demand by inaugurating a program to eliminate malaria worldwide, largely through mosquito abatement with the help of DDT. By the beginning of the next decade, US annual production of DDT reached 85,000 tons, most of which was being manufactured by a single company, the Montrose Chemical Corporation located in Torrance, California, a suburb of Los Angeles.[1105]

1102 This has subsequently been disputed. DDT is suspected by some scientists to be an endocrine disrupter and a carcinogen. US Environmental Protection Agency, "DDT—A Brief History and Status," https://www.epa.gov/ingredients-used-pesticide-products/ddt-brief-history-and-status Accessed April 4, 2019.

1103 Thomas R. Dunlap, *DDT: Scientists, Citizens, and Public Policy* (Princeton, NJ: Princeton University Press, 1981); Malcolm Gladwell, "The Mosquito Killer," *The New Yorker*, July 2, 2001, 42ff.

1104 Dunlap, *DDT: Scientists, Citizens*, 271.

1105 Montrose Settlements Restoration Program, "Executive Summary."

Despite the popular enthusiasm for DDT, many scientists and government resource managers were aware, from as early as the late 1940s, that this seemingly-miraculous pesticide might have undesirable effects. The USFWS began studying the broader impacts of DDT as early as 1944, when the pesticide was first introduced for forest management. Dr. Clarence Cottam, director of wildlife research for the service, later recommended caution in the use of DDT. He observed that the urgency of war had allowed industry scientists to overlook the long-term dangers of DDT, but now that the war was over, they had to consider these risks. At the time, however, the risks Cottam alluded to could not be positively identified, while the benefits of the pesticide could be, so his warning went largely unheeded.[1106]

One of the first scientists to document the collateral damage being caused by broadcast applications of DDT was Dr. Joseph J. Hickey, a professor of wildlife management at the University of Wisconsin, Madison. During the late 1950s, Hickey realized that prolific DDT applications in suburban and rural small-town environments were not simply affecting but were actually eliminating whole songbird populations. Local residents had noticed the change but were not at first alarmed, because they believed that the birds had simply moved on to another location. Additional studies revealed that the birds had died. This discovery was the impetus for Rachel Carson's influential book *Silent Spring*, which she began writing in 1958. Carson worked for the USFWS at the time and based her research on the work done at the service's Patuxent Wildlife Research Center under the direction of Dr. Cottam.[1107]

The public outcry that followed the publication of Carson's book in 1962 brought popular attention to the problems inherent in such pervasive environmental toxins as DDT, but this was not the only reason the chemical was ultimately regulated. Just as significant was the less-publicized reaction of professional scientists who had already been studying the effects of this pesticide since Hickey's research in the 1950s. Their work culminated in a series of professional conferences in 1965. The most important of these met at Madison, Wisconsin, in late summer of that year and presented the disturbing observation that peregrine falcon populations were simultaneously collapsing around the world. The conference noted that isolated population collapses were not unprecedented and could be attributed to a variety of local factors such as starvation resulting from the depletion of food resources, an epidemic outbreak of disease, and other local events. But a simultaneous worldwide collapse could not be explained in the traditional ways. The coincidence of the falcon crisis with the widespread introduction of DDT led many scientists to suspect a causal relationship, but the exact mechanism could not yet be demonstrated. Another conference which met in Port Clinton, Ohio, in 1965 to discuss negative population trends among bald eagles reached similar conclusions.

One of the problems with these early suspicions is that they implied a chronic rather than acute effect resulting from DDT exposure. They also suggested that the pesticide was acting indirectly on the affected birds by degrading their environment rather than by directly poisoning them. But at that time there was little precedent for considering chronic toxicity or the long-term indirect effects of environmental degradation. When scientists originally tested and approved DDT for use, they only considered the potential for acute toxicity in humans. The pesticide was determined to be harmless because it produced no observable symptoms in humans and some

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1106 Clarence Cottam and Elmer Higgins, "DDT and Its Effects on Fish and Wildlife," *Journal of Economic Entomology* 39, 1946, 44-52.

1107 Dunlap, *DDT: Scientists, Citizens*, 274-275.

test animals exposed to intense concentrations under laboratory conditions. The gradual recognition of DDT's widespread negative effects required a new paradigm for understanding toxicity in a more complex environmental context. One of the more significant aspects of the history of DDT may be its contribution toward introducing this paradigm. In attempting to explain the collapse of falcon and bald eagle populations, and the correlation of these events with the introduction of DDT, scientists were compelled to pay greater attention to the role of pervasive environmental pollution as a contributing factor in the death of individuals and the decline of species rather than just acute toxicity through direct exposure.

But even after scientists began to suspect that DDT might be having long-term effects on the environment, they still needed to explain how these effects worked. The mechanism that connected DDT with the population declines of predatory birds was finally described in the 1960s, through comparison of modern eggs with museum specimens from before the production of DDT. The research showed that egg shells had thinned by as much as 19% among birds exposed to the pesticide or its breakdown product DDE. This thinning was sufficient to cause failure during brooding, because the weight of the parent crushed the more fragile egg. Further research revealed that DDT affected enzymes responsible for the transport of calcium which female birds needed to produce healthy eggs.[1108] However, comparatively large concentrations of DDT were needed to produce this result and DDT was found in only trace quantities in the environment, although it was widely-distributed and persistent. DDT did break down but only to a closely related chemical, DDE, which proved to be just as toxic for most organisms and remains stable for years. Persistence was one of the characteristics of DDT that had made it desirable as an insecticide. Treatments would remain effective many months after an initial application. But this was also one of the reasons DDT posed such a serious environmental hazard. It was also part of the explanation why some organisms, such as predatory birds, were able to accumulate toxic concentrations of organochlorines in their bodies.

The other part was DDT's affinity for fatty tissues with which it bonds chemically. The combination of these two factors allows DDT and related organochlorines to bioconcentrate in species at the apex of an ecosystem's trophic cycle. Relatively small quantities of DDT become integrated in the body tissue of organisms at the bottom of the food chain. When large numbers of these simple organisms are consumed by a predator on the next level of the trophic pyramid, the amount of background DDT is concentrated in this single predatory organism by a factor equal to the number of prey animals consumed. This rate of concentration continues up the trophic cycle, with each level concentrating the sum of the previous level in fewer and fewer individuals. At the top of the trophic cycle, a small number of predatory species or occasionally a single keystone species will eventually absorb most of the DDT circulating through the entire food chain. At this point, the concentration of DDT present in each individual of that species greatly exceeds background environmental levels.

This ability of DDT to bioconcentrate was first observed among a breeding colony of western grebes (*Aechmophorus occidentalis*) at Clear Lake in Northern California in 1960. After the colony experienced a series of mass die-offs, scientists analyzed the breast fat of the dead birds and found lethally high concentrations of DDD, an organochlorine-based insecticide closely related to DDT which had been used to control gnat larvae on the lake between 1948 and

1108 Joseph J. Hickey and D. W. Anderson, "Chlorinated Hydrocarbons and Eggshell Changes in Raptorial and Fish-Eating Birds," *Science* 162 (271) 1968, 271-273; DDE (*Dichlorodiphenyldichloroethylene*).

1957.[1109] Western grebes are top-feeders in the Clear Lake ecosystem and therefore represent the apex of the trophic pyramid where any persistent element dispersed through the aquatic environment accumulates most densely. The scientists measured the DDD concentrations in organisms at each level of the food chain and found that increasing concentrations of the chemical correlated with successively higher trophic levels. At the bottom of the food chain were plankton, which had relatively low concentrations of DDD but still 265 times greater than the surrounding lake water. Herbivorous fish, which feed on the plankton, had concentrations that were more than 500 times greater than the lake water, while predaceous fish and birds, like the western grebe, had levels as high as 85,000 times greater. At this point, the concentrations became lethal, and the birds died.[1110]

The same mechanism of bioconcentration was found to operate among other predatory birds, such as peregrine falcons and bald eagles that preyed on marine life tainted with organochlorines. Later, other marine predators, such as the brown pelican and cormorants, were found to be suffering from the same sources of chronic environmental toxicity. These avian species, however, were threatened by concentrations that thinned eggshells long before they became high enough to kill adult birds as they had at Clear Lake. Failure of the breeding birds' eggs could lead to potential loss of an entire population in as little as a generation, even though adult birds showed no signs of acute poisoning. By the mid-1960s, this complex web of ecological relationships had been described fully and was supported by scientific evidence.

In response to professional criticism of DDT, some restrictions on the use of the pesticide were introduced by various states and federal agencies, in a few instances resulting in its outright prohibition. One of the largest federal users of DDT was the US Forest Service. Between 1945 and 1958, the Forest Service sprayed nearly 9,000,000 pounds of DDT for the control of arboreal pests. After 1958, usage of DDT by the USFS was substantially curtailed. The National Park Service was another major user of DDT, also applying the insecticide to control forest pests. In 1964, the Secretary of the Interior directed that all chlorinated hydrocarbons would be avoided on Interior lands, including the national parks, except when no other alternative could be found. In 1970, this ban was strengthened with the removal of the exception clause. By that time, the US Department of Agriculture, which administers the USFS, had also strengthened its restrictions.[1111]

On July 9, 1970, President Richard Nixon submitted to Congress his Reorganization Plan No. 3, which established the Environmental Protection Agency and the National Oceanic and Atmospheric Administration.[1112] The conception of the EPA shared an interesting relationship with the growing awareness of the unique risks associated with environmentally pervasive toxins such as DDT, because the agency reflected a more ecologically based understanding of the environment that acknowledged how all of its various elements are interrelated and act interdependently. The *Federal Register* stated:

1109 DDD (*Dichlorodiphenyldichloroethane*).

1110 E. G. Hunt and I. A. Bischoff, "Inimical Effects on Wildlife of Periodic DDD Applications to Clear Lake," *California Fish and Game* 46, (January) 1960, 91-106.

1111 US Environmental Protection Agency, DDT: A Review of Scientific and Economic Aspects of the Decision to Ban Its Use as a Pesticide; Prepared for the Committee on Appropriations, US House of Representatives (Washington, DC: US Environmental Protection Agency, 1975), 251-256.

1112 116 *Congressional Record* H 6523 (H.Doc. Nos. 91-364, 91-365, and 91-366).

> *Despite its complexity, for pollution control purposes the environment must be perceived as a single, interrelated system. Present assignments of departmental responsibilities do not reflect this interrelatedness.*[1113]

The regulation of environmental pollutants, the principal task of the EPA, had to be consolidated to be effective. Responsibilities relating to this task previously had been distributed among the Department of the Interior, the Department of Health, Education and Welfare, the Department of Agriculture, and the Atomic Energy Commission. Among these responsibilities was the registration of pesticides which had formerly been carried out by the Agricultural Research Service of the Department of Agriculture. The new agency assumed its new responsibilities in December of 1970.[1114]

Among the EPA's first actions after it became operational in early 1971 was to initiate cancellation proceedings against all DDT products and uses. This was a response to litigation brought against the EPA's federal predecessors by the Environmental Defense Fund, a nonprofit organization that had been recently established by a group of New York scientists specifically to challenge DDT use.[1115] Cancellation, despite its draconian connotation, was one step short of full suspension. It simply required the EPA to conduct further investigations of its registered products.[1116] Following this decision, the EPA commenced a formal administrative review of its DDT registrations [user proposals for implementation], with hearings held between August 1971 and March 1972. Registrants representing both industry and agriculture challenged 15 of the cancelled uses, mostly pertaining to agricultural applications. Witnesses opposing the use of DDT included scientists from major universities, many of whom were involved in government-funded research at places like the Patuxent Wildlife Research Center as well as environmental organizations such as the Audubon Society and the Environmental Defense Fund.[1117]

Among the witnesses called by the Environmental Defense Fund to challenge DDT during the EPA hearings was Dr. Robert W. Risebrough, an associate professor of ecology at the University of California, Davis. Dr. Risebrough had been conducting research on the nesting colony of brown pelicans (*Pelecanus occidentalis californicus*) at Anacapa Island for the last decade and had closely documented the relationship between DDT and the decline of this colony. Risebrough had estimated, as recently as 1964, that up to 1,000 nests had produced successful fledglings. In 1969, he counted 298 nests on Anacapa Island but found only 12 eggs intact. A week later, all of those were crushed. The following year, Risebrough and his colleagues observed 500 nests but only one successful fledgling. Examination of the failed nests revealed that the eggs had been crushed as a result of having abnormally thin shells. This in turn was found to have been caused by high concentrations of the DDE that was identified in yolk

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1113 William D. Ruckelshaus, "Consolidated DDT Hearings: Opinion and Order of the Administrator [the Environmental Protection Agency]," *Federal Register* 37.131 (July 7, 1972): 13369-13376.

1114 Ibid.

1115 Dunlap, *DDT: Scientists, Citizens*, 281-2; "Our History" on Environmental Defense Fund webpage (www.edf.org).

1116 The court concluded that cancellation proceedings should commence whenever the registration of a pesticide raised a substantial question of safety warranting further study. This decision was consistent with the court's interpretation of the 1947 Federal Insecticide, Fungicide, and Rodenticide Act. During the course of these investigations, use of the products could continue. *Environmental Defense Fund v. Ruckelshaus*, 439 F. 2d 584 (D.C. Cir. 1971).

1117 Ruckelshaus, "Consolidated DDT Hearings."

samples from the failed eggs.[1118] Such detailed and conclusive evidence of the widespread impact of organochlorines proved instrumental in convincing EPA Director William Ruckelshaus that the risks inherent in DDT far out-weighed its benefits. He suspended all agricultural uses of the pesticide except for disease control and military-related programs. Contributing to Ruckelshaus' decision was the existence of alternative organophosphate insecticides such as malathion that were already being substituted for DDT. Though more acutely toxic, these chemicals biodegraded relatively fast and were therefore less environmentally persistent than the organochlorines. The EPA's formal suspension of DDT registration in the United States became effective December 31, 1972.[1119]

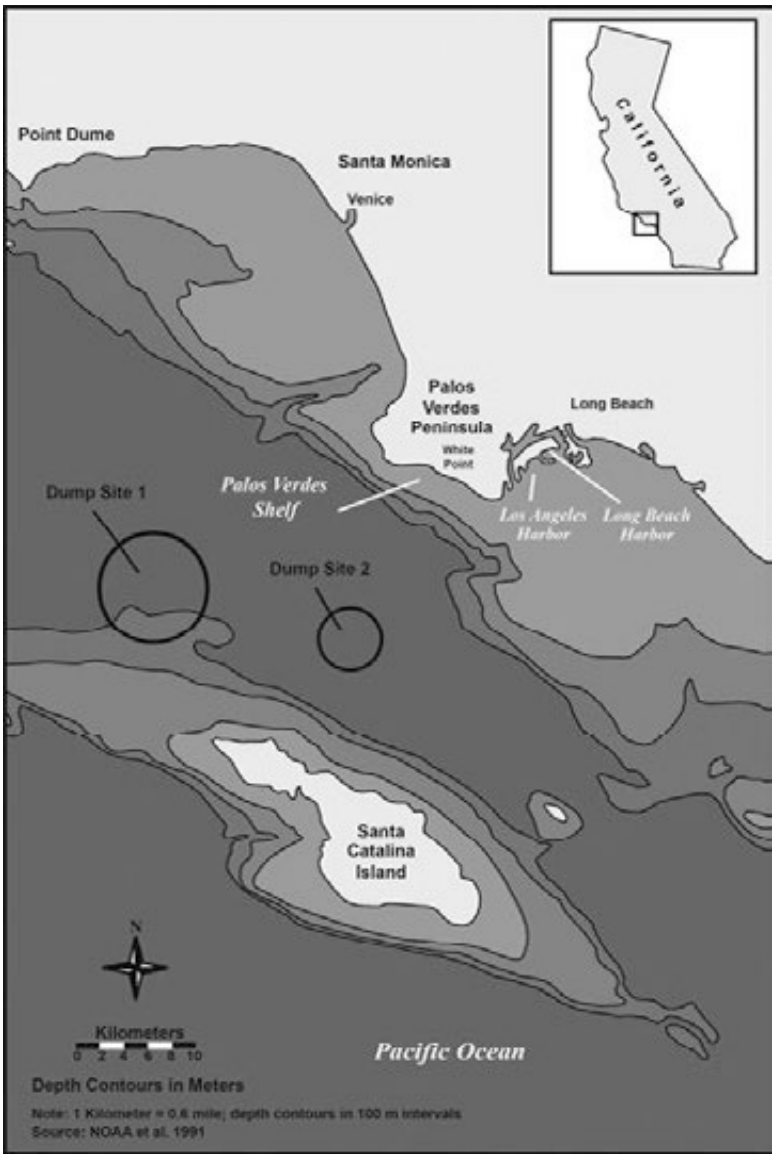
While the negative environmental effect of DDT and related organochlorines was now well-established, the reason why this effect appeared so highly pronounced in Southern California had yet to be adequately explained. The principal domestic use of DDT was agricultural, so it was natural to assume that concentrations of the pesticide would correlate geographically with areas of greatest agricultural activity. This reasoning also suggested that concentrations in the marine environment should be highest near the outflow of rivers that drained upland agricultural districts, but scientists found instead that coastal concentrations increased the closer one got to Southern California. Between 1965 and 1966, a team of scientists from the University of California's Institute of Marine Research led by Dr. Risebrough sampled anchovies from various locations off the coast of California. They found an average of 0.59 parts per million (ppm) DDT in the waters of San Francisco Bay, which drains California's vast Central Valley agricultural district. Moving progressively south, they found 0.90 ppm in anchovies caught off Monterey Bay, 3.04 ppm off Port Hueneme near the Northern Channel Islands, and 14.0 ppm off Terminal Island in San Pedro Bay near Los Angeles.[1120] This suggested that the principal source of DDT in California's marine environment was not agricultural runoff, since Southern California has no sizeable rivers comparable to those further north. Instead, it appeared to be related to the production of DDT. Since 1947, the Montrose Chemical Corporation had been manufacturing DDT in Torrance, California. At the time of the EPA review of DDT registration in 1970, Montrose was the sole US manufacturer of the pesticide, producing more than 12,000,000 pounds per year. Even after the pesticide was banned for domestic use two years later, Montrose continued manufacturing DDT for foreign export until 1982. What was not learned until later is that Montrose had been dumping DDT and associated chemicals directly into Southern California's coastal waters for years, thus accounting for the mysteriously high concentrations of organochlorines found there.[1121]

1118 Franklin Gress, Reproductive Status of the California Brown Pelican in 1970, with Notes on Breeding and Natural History; Report 70-6, (Sacramento: California Department of Fish and Game, Wildlife Management Administration, 1970); " Pesticides Peril Bird Life," *Santa Barbara News-Press*, April, 22, 1969; Ralph W. Schreiber and Robert W. Risebrough, "Studies of the Brown Pelican," *The Wilson Bulletin* 84 (2) 1972, 119-135.

1119 Ruckelshaus, "Consolidated DDT Hearings."

1120 Irving S. Bengelsdorf, "Scientific Sleuths Have Nailed Another Global Lifetaker" *Los Angeles Times*, March 20, 1969; The earliest peer-reviewed article on the subject was Robert W. Risebrough, D. B. Menzel, D. J. Martin, and H. S. Olcott, "DDT Residues in Pacific Sea Birds: A Persistent Insecticide in Marine Food Chains," *Nature* 216 (5115) 1967, 589-591.

1121 Montrose Settlements Restoration Program, "Final Restoration Plan/EIS/EIR."



Map 9-1. The Montrose Chemical Corporation dumped more DDT into the San Pedro Channel at Los Angeles than flowed from the entire Mississippi River Basin by the 1970s. The Southern California Countercurrent then washed the pollutant north toward the park's Channel Islands (see also map 1-9).

Source: Map produced by NOAA, 1991.

The Montrose Chemical Corporation had been carrying on this practice since at least 1953, when the Los Angeles County Sewer District issued a permit allowing the company to discharge its waste products through the county system. The untreated sewage was released from a submerged outfall located about one mile offshore of the Palos Verdes Peninsula, which thrusts out between Santa Monica and San Pedro Bays. During its 35 years of active production, Montrose is estimated to have discharged approximately 1,800 metric tons of DDT into the San Pedro Channel. On average, this amounted to approximately 660 pounds per day. As one researcher estimated, the San Pedro Channel was receiving more than 10 times the amount of organochlorine pesticides annually discharged by the Mississippi River from agricultural uses in

all or parts of the 24 states comprising the Mississippi watershed.[1122] In addition, between 350 and 700 metric tons of DDT were directly dumped from barges into the San Pedro Channel between 1947 and 1961. The sum of these discharges originating from a single manufacturer resulted in the Southern California Bight having the highest concentration of DDT of any marine ecosystem in the world.[1123] This pollution was compounded by the addition of PCBs (polychloronated biphenyls), a related family of organochlorine chemicals that were used for a variety of industrial purposes, but primarily as fluid insulators in electronic components such as transformers. PCBs are at least as persistent as DDT and have similar physiological and environmental effects. They were being discharged into the San Pedro Channel from the late 1930s, but the peak inputs occurred between 1965 and 1970. During this time, discharges exceeded 100 metric tons per year. Though Montrose was the sole manufacturer of these chemicals and the discharge flowed through the same Los Angeles County sewer outfall as the company's DDT, the source of the PCB effluent was not limited to a single user. At least 16 sources were ultimately identified, with Westinghouse Electric Company's maintenance and repair facility in Dominguez Hills among the principal contributors.

USA v. Montrose et al. (2001)

In 1980, just two years before Montrose ceased production of DDT, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), more commonly known as the Superfund Act. This act made industrial polluters liable for environmental damage caused by their activities, requiring them to assume financial responsibility for cleanup of hazardous waste or mitigating the damage caused by it. The act also established a trust fund with taxes levied on the oil and chemical industries to provide for cleanup when no responsible party could be identified.[1124] On the basis of the Superfund Act, the United States and the State of California filed suit against Montrose Chemical Corporation on June 18, 1990, to recover damages associated with the release of DDT and PCBs. The suit was modified several times over the next few years to include six other local, private industries involved in the use or manufacture of organochlorines as well as a Los Angeles County Sanitation District and more than 150 local government entities.[1125]

The suit went to trial on October 17, 2000, and was settled in March of the following year. Settlement was achieved through a consent decree, whereby the defendants agreed to pay more than $140,000,000 in damages. This money was placed in a trust account, with $66,250,000, plus interest, for use by the EPA and the California Department of Toxic Substances to research and implement clean-up activities. The remainder of the settlement monies were to be used for restoration of natural resources affected by the defendants' activities. The sum allocated for this purpose was $63,950,000 and was to be administered by a group of Natural Resource Trustees, comprising both federal and state agencies having direct interests in the affected

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1122 J. S. MacGregor, "Changes in the Amount and Proportions of DDT and Its Metabolites, DDE and DDD, in the Marine Environment Off Southern California, 1949-72," *Fishery Bulletin* 72 (2) 1974, 275-293.

1123 US Environmental Protection Agency, Ecological Risk Assessment for the Palos Verdes Shelf (San Francisco, CA: US Environmental Protection Agency, Region IX, 2003).

1124 Environmental Protection Agency, http://www.epa.gov/superfund/policy/cercla.htm Accessed October 25, 2009.

1125 The Los Angeles County Sanitation District No. 2 (LACSD) operates the Joint Water Pollution Control Plant (JWPCP), located just south of Torrance. The JWPCP releases waste effluent through discharge pipes located at White's Point on the southeast corner of the Palos Verdes Peninsula.

environment.[1126] The National Park Service was selected as one of these Trustees because the sea around the Northern Channel Islands were acknowledged to have been significantly impacted by the defendants' hazardous discharge.[1127]

The court settlement defined the obligations and responsibilities of the Natural Resource Trustees in the following mandate:

> *The Trustees will use all damages to (1) reimburse past and future Damage Assessment Costs, and (2) restore, replace, or acquire the equivalent of the injured natural resources and/or the services provided by such resources. The Trustees will use the damages for restoration of injured natural resources, including bald eagles, peregrine falcons and other marine birds, fish and the habitats upon which they depend, as well as providing for implementation of restoration projects intended to compensate the public for lost use of natural resources. The Trustees will undertake a restoration planning process to determine which restoration projects will most effectively restore the injured resources as well as compensate for lost use of those resources. The details for specific projects will be contained in a draft restoration plan. A final restoration plan will be prepared and implemented by the Trustees after providing public notice, opportunity for public input and consideration of public comments.*[1128]

Examination of the hazardous waste deposits on the Palos Verdes Shelf convinced the court that cleanup would not be feasible and therefore damages would be addressed primarily through mitigation.[1129] This decision had significant implications for the National Park Service because it meant that fiscal resources that might have been exhausted by cleanup efforts in the Southern Channel Islands were now available for restoration of commensurate resource values in the greater region. Channel Islands National Park represented one of the more desirable locations for mitigation efforts. Not only were the resources here similar or identical to those directly impacted in the Southern Channel Islands, but the greater distance of the Northern Channel Islands from the immediate load of toxic waste on the Palos Verdes Shelf made it more likely that restoration efforts might succeed here even without the removal of the waste itself.

The consent decree stipulated that the Trustees prepare a restoration plan.[1130] Completed in the fall of 2005, the plan identified four targets where restoration or mitigation efforts would be focused: (1) the improvement of fisheries and associated habitat, (2) the restoration of local bald eagle populations, (3) the restoration of local peregrine falcon populations, (4) and the

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1126 The remaining $10 million was placed in a separate trust account and designated swing money. This meant that it could be used either for cleanup or for restoration.

1127 The other trustees were the National Oceanic and Atmospheric Administration; the US Fish and Wildlife Service; the California Department of Fish and Game; the California State Lands Commission; and the California Department of Parks and Recreation.

1128 "Consent Decree," *USA v. Montrose et al.*, 2001.

1129 EPA has investigated a broad range of response alternatives for the Palos Verdes shelf. EPA ultimately decided to focus its investigations on the no action, institutional controls and in-place alternatives. In March 2000, EPA proposed an institutional controls program for public comment. EPA is also continuing to evaluate capping as a potential response action for the Palos Verdes shelf. No action was taken on the capping proposal. Instead, emphasis was placed on protecting the public from pollution, and restoring affected resources in places where the immediate effects of organochlorine discharges were less substantial; i.e., the Northern Channel Islands.

1130 Montrose Settlements Restoration Program, "Final Restoration Plan/EIS/EIS."

restoration of local seabird populations. The latter included a broad range of island-nesting species affected by organochlorines, including brown pelicans, double-crested cormorants, Cassin's auklets, and Scripps's murrelets. The majority of settlement resources were devoted to fishery improvement and amounted to approximately $12,000,000. This money was divided between physical restoration of habitat such as construction of artificial reefs and public outreach to provide education about the risks of consuming contaminated fish.[1131] The bulk of the remaining funds was divided between seabird restoration and bald eagle restoration. Peregrine falcon restoration only received about $300,000, because the peregrine had already demonstrated a strong recovery following the cessation of DDT discharges in 1970. With the population already approaching healthy and sustainable numbers, monitoring alone was considered sufficient mitigation.

Many of the seabird populations were also rebounding on their own accord. Among the more notable examples was the California brown pelican. In 1970, only a single bird had successfully fledged on west Anacapa Island, the most significant breeding colony north of the Mexican border. By 1973, the colony supported an increasing number of fledglings. Instead of prescribing unnecessary restoration actions, the Montrose Settlement Trustees recommended treatments for enhancing existing California brown pelican habitat. A variety of suggestions were considered for improving and expanding roosting habitat, including the installation of an offshore barge to provide a protected platform on which the birds could alight to rest. Pelicans are sensitive to disturbance and have lost much or most of their historic roosting territory as a result of mainland development. In recent years, brown pelicans have been so successful that their breeding colony has begun to expand to other islands and small islets in the Northern Channel Islands archipelago. In 2009, the USFWS removed the iconic bird from the endangered list.[1132]

Restoration of the Bald Eagle

Bald eagles on the mainland also recovered, but they were not able to repopulate the Channel Islands without human intervention. Efforts had already been made to reintroduce the birds prior to the Montrose Settlement with mixed results. Since the relationship between DDT and reproductive failure in the species had been understood as early as the late 1960s, the ban on domestic use of the pesticide in 1972 provided hope that a successful population might soon be restored on the islands.[1133] In 1980, the first attempt was made when the Institute for Wildlife Studies entered into a cooperative agreement with the USFWS, the California Department of Fish and Game, and the Catalina Island Conservancy to reintroduce bald eagles to Santa Catalina Island. Over the next six years, 33 young eagles were successfully released from hacking platforms. In 1987, the first breeding attempt occurred, but the eggs laid by this pair failed. Examination revealed that the eggs contained high concentrations of DDT metabolites. All subsequent attempts by members of this newly reintroduced population were also unsuccessful for the same reason. Santa Catalina Island lies immediately opposite the San Pedro Channel

1131 For example, the educational comic book, *There's Something Fishy Going on Here*, produced jointly by Montrose Settlements Restoration Program and Cabrillo Marine Aquarium.

1132 US Fish and Wildlife Service, "Brown pelican populations recovered removed from Endangered Species List," https://www.fws.gov/southeast/news/2009/11/brown-pelican-populations-recovered-removed-from-endangered-species-list/ Accessed April 22, 2019.

1133 Hickey and Anderson, "Chlorinated Hydrocarbons." At this time, the source of the contamination had not yet been connected with the production facilities at Montrose, which was still manufacturing the chemicals. However, the company had ceased discharging its wastes directly into the San Pedro Channel, so the environmental load was, at least, no longer being augmented.

from White's Point, where the bulk of organochlorine pollutants was discharged prior to 1972. Marine life consumed by the bald eagles in this area was still highly contaminated, and scientists realized that for the foreseeable future the Santa Catalina population would not be able to reproduce naturally. However, they elected to sustain this population artificially by substituting healthy eggs from other locations for the DDT-contaminated eggs produced locally.

This decision allowed the bald eagles to remain on Santa Catalina Island but only as a result of active and ongoing human intervention.[1134] A subsequent assessment provided the following summary of the program:

> *Since 1989, the reintroduced population has been maintained through manipulation of eggs and chicks at each nest site, and through hacking of additional birds. In the egg manipulation process, structurally deficient eggs laid by the birds affected by DDE are replaced with artificial eggs. The adult eagles continue to incubate the artificial eggs, while the real eggs are removed and artificially incubated at the Avian Conservation Center (ACC) at the San Francisco Zoo. Chicks that hatch from these removed eggs, or those produced by captive adults at the ACC or by wild birds, are then fostered back into the nests. In 2005, the Trustees funded the establishment of an incubation facility on Santa Catalina Island so that eggs and chicks would not need to be transported to and from the ACC at the San Francisco Zoo.*
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> *From 1980 to 2004, a total of 80 eggs were removed from nests on Santa Catalina Island, 14 of which hatched. A total of 47 chicks and 3 eggs (of which 2 hatched) were fostered into nests, and adult bald eagles successfully reared 40 of these 49 chicks. During this time, an additional 21 birds were also hacked onto the island. Because of the high DDE concentrations in the eggs, this active program of manipulation and augmentation is necessary to maintain bald eagles on Santa Catalina Island at this time.*[1135]

Since the Santa Catalina Island population remained conservation-dependent, it failed to meet the USFWS goals for its Pacific Bald Eagle Recovery Plan, as established in 1973 in accordance with the Endangered Species Act. This plan had stipulated that a minimum of six breeding pairs become established in a self-sustaining colony. The present colony clearly failed to meet the criterion of "self-sustaining."[1136]

The collapse of the fox population on the Northern Channel Islands provided a new stimulus for attempting to restore island bald eagle populations. As early as 1999, the Island Fox Conservation Working Group had recommended that bald eagles be reintroduced to exclude golden eagles. This strategy shifted the focus of bald eagle restoration efforts to the northern archipelago. Santa Cruz Island was identified as the preferred location. The Northern Channel Islands promised a greater chance of supporting a reproductively viable and self-sustaining population of bald eagles, since they were farther away from the primary source of

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1134 Peter B. Sharpe and David K. Garcelon, "Restoring and Monitoring Bald Eagles in Southern California: The Legacy of DDT," in David K. Garcelon and Catherin A. Schwemm, eds., *Proceedings of the Sixth California Islands Symposium* (Arcata, CA: Institute for Wildlife Studies, 2005), 323-330.

1135 Montrose Settlements Restoration Program, "Final Restoration Plan/EIS/EIR," B-3ff.

1136 Ibid., B-2; US Fish and Wildlife Service, "Pacific Bald Eagle Recovery Plan," 1973.

contamination off the Palos Verdes Peninsula. With the Montrose Settlement resolved in December 2000, money became available to fund this initiative.

Within a year of the Montrose Settlement, the Institute for Wildlife Studies initiated a five-year feasibility study designed to assess bald eagle movements, survival, and foraging habits.[1137] In 2002, 12 young birds, equipped with radio and GPS transmitters, were successfully released from two hacking towers on Santa Cruz Island. The towers were located along the ridge of the isthmus near the navy base. Scientists hoped to release the same number of birds annually for the next five years.[1138] By the end of the initial feasibility study, a total of 59 juvenile bald eagles had been released on the Northern Channel Islands. Of these, 34 were known to have survived and still be present on the islands. In 2006, a healthy chick was hatched on Santa Cruz Island and subsequently fledged. This represented the first time that bald eagles had successfully bred on the Northern Channel Islands in more than 50 years. In anticipation of the event, the park and the Institute for Wildlife Studies had set up a webcam on the nest after the egg was laid. This connected over 1.6 million viewers to this milestone event. Viewers were linked via the discussion board to a play-by-play understanding of the behaviors they observed in the nest. While dangerous concentrations of organochlorines were still present in the local environment and remained a threat to the bald eagles, the initial reintroduction efforts appeared to be successful.[1139]

The Return of the Island Fox

The reintroduction of bald eagles to the Northern Channel Islands boded well for the recovery of the island fox. If a permanent population could be re-established, the chances of restoring the islands' ecological integrity seemed greatly increased. The bald eagles would once more occupy the niche that golden eagles had colonized within the hierarchy of island species, eventually displacing any remaining golden eagles and making the latter's future introduction unlikely. This would eliminate the immediate threat that caused the crisis in the island fox population, allowing the foxes to be released back into the wild once their populations had been restored to healthy levels through the captive breeding program. A demographic model developed by researchers concluded that each captive population needed to grow to at least 40 breeding animals (20 pairs) before the foxes could be released. They considered this to be the minimum number from which a viable wild population could be established.[1140] By 2003, this target had been reached in the Santa Rosa Island and Santa Cruz Island facilities, and some members of the working group recommended that releases begin at that time. Compelling reasons dictated that the foxes not be kept in captivity any longer than necessary. Reproductive success was substantially lower among

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1137 Montrose Settlements Restoration Program, Feasibility Study for Reestablishment of Bald Eagles on the Northern Channel Islands (NCI), California, (Washington, DC: US Dept. of Commerce, National Oceanic and Atmospheric Administration, 2002). http://www.darrp.noaa.gov/southwest/montrose/pdf/mon02-2.pdf.

1138 Jessica A. Dooley et al. "Movements, Foraging, and Survival of Bald Eagles," (2005); Timothy J. Coonan, and Mitchell Dennis, Island Fox Recovery Program: 2005 Annual Report, Technical Report No. 06-02 (Ventura, CA: National Park Service, Channel Islands National Park, 2006), 51-52.

1139 Gabrielle Dorr, "Bald Eagles on the Northern Channel Islands," Montrose Settlements Restoration Program Fact Sheet, January 2008; David Kelly, "Four Bald Eagles Returned to the Channel Islands," *Los Angeles Times*, May 21, 2002; Barbara Whitaker, "On Wings of Eagles," *New York Times*, July 29, 2002; Jenifer Ragland, "Twelve Eagles to Land in Channel Islands Park," *Los Angeles Times*, July 20, 2003.

1140 Timothy J. Coonan et al. "Efforts to Reduce Golden Eagle Predation on Island Foxes at Channel Islands National Park," unpublished report. CINP Library.

captive foxes than wild ones, and the rate appeared to be declining. Researchers attributed this to the stress of captivity and to the relatively high incidence of mastitis.[1141]

Fire and disease also posed the risk of a catastrophe. Fire was a very serious concern because island staff had minimal fire-fighting capacity, and fire conditions could become extreme during the fall months when hot, dry winds blew from the mainland. Confined in their pens, the foxes would not be able to escape an approaching blaze, and an entire population or subspecies could potentially be eliminated in one devastating event. However, the risks of a premature release were also great. The Working Group's original captive breeding plan that set the population target also stipulated that the threat from golden eagles must be eliminated before the foxes were released. Unfortunately, this goal had not been achieved by 2003, when an estimated 13 golden eagles still remained in the northern islands despite continuing attempts to trap and relocate the birds. The increased wariness of these remaining birds made it unlikely that they would be caught anytime soon without substantially increased resources, also unlikely under existing funding limitations.

These competing considerations led to disagreement among members of the Working Group. Some suggested that the foxes be moved to long-term holding facilities on the mainland while others, including most NPS managers, recommended limited releases. In the end, the latter option was adopted, and during the fall and winter of 2003–2004, the park released 12 foxes on Santa Rosa Island and 9 on Santa Cruz Island.[1142] Initially, the worst fears of many Working Group members were confirmed when more than half of the foxes released on Santa Cruz Island were killed by golden eagles in a matter of weeks. The remaining four animals were brought back into captivity and TNC, which shared responsibility for the program on Santa Cruz Island, halted all further efforts at reintroduction for the time being. The foxes released on Santa Rosa Island did much better, with only one animal succumbing to predation. Although the failure on Santa Cruz Island created pressure in the Working Group to abandon the release experiment altogether so long as golden eagles were still present, NPS managers preferred to continue. Later that spring, the federal government listed the northern subspecies of island fox under the Endangered Species Act, making the US Fish and Wildlife Service officially responsible for managing their recovery.[1143] The USFWS now had to review all aspects of recovery efforts and issue permits for any proposed actions.

The wildlife agency allowed the National Park Service and the Institute for Wildlife Studies to remain lead authorities in the recovery efforts given their past involvement. When USFWS staff

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1141 Coonan et al., *Decline and Recovery*, 94; Mastitis is defined as inflammation of the breast or udder tissue.

1142 Ibid., 107

1143 US Fish and Wildlife Service, "Listing of the San Miguel Island Fox, Santa Rosa Island Fox, Santa Cruz Island Fox, and Santa Catalina Island Fox as Endangered: Final Rule," *Federal Register* 69.44, 2004, 10335-10353; Margaret Talev, "Island Foxes Proposed for Endangered Status," *Los Angeles Times*, December 11, 2001; Holly Wolcott, "Islands' Foxes Are Now Protected," *Los Angeles Times*, March 5, 2004. The Santa Catalina Island Fox from the southern archipelago of the California Channel Islands was also listed. The island fox had been proposed as a candidate for listing by the US Fish and Wildlife Service since 1982 as a single species, and as six subspecies since 1985, but no action resulted at that time. In 2000, both the Institute for Wildlife Studies (IWS) and the Center for Biological Diversity (CBD) petitioned for listing. Under this process, USFWS has 90 days to determine whether adequate knowledge is available to make a determination, then one year to determine whether a listing is warranted. The petitioners hoped that listing would make additional funding available for recovery efforts and increase awareness of the problem. This would also assist fund-raising efforts. In November 2000, USFWS responded that listing could not be addressed due to the Service's onerous workload. The CBD replied by bringing suit, and the USFWS agreed to expedite this listing process for this and other species. In December 2001, the USFWS proposed listing four of six fox subspecies as endangered but failed to act on its proposal in a timely manner. The CBD sued once again. In October 2003, the USFWS finally agreed to finalize the process, and the four subspecies (from Santa Catalina, Santa Cruz, Santa Rosa, and San Miguel Islands) were formally listed in March of 2004.

reviewed the existing status of the conservation program, they concurred with NPS members of the Working Group and supported the continued reintroduction of foxes on Santa Rosa Island, despite the risk of predation. By the fall of that year, another 13 animals were released on Santa Rosa Island, and reintroduction commenced on San Miguel Island with an initial ten animals released. These efforts continued over the next several years, with 10 to 20 foxes released every year through 2007. Reintroduction also resumed on Santa Cruz Island in 2006. Once the island foxes were restored to the wild, their reproductive success increased substantially, and the population quickly rose. This recovery was most dramatic on San Miguel and Santa Rosa Islands, where the island fox population increased from lows of only 15 at the nadir of the crisis to nearly 400 by 2009. This was close to carrying capacity for San Miguel Island and almost half of the estimated capacity for Santa Rosa. Although golden eagles were still present on the Northern Channel Islands, their numbers had diminished, and the rate of predation on island foxes remained at a tolerable level.[1144]

The recovery program on Santa Catalina Island in the southern archipelago also proved successful. Although unrelated to the crisis in the northern islands, the crisis on Santa Catalina was coincident in time and managers in both places worked closely together to share knowledge and practical experience. Captive breeding began shortly after the population collapsed in 1999 and continued through 2004. During this period, biologists administered a vaccine for canine distemper, the cause of the Santa Catalina Island crisis, to the remaining wild foxes. By the end of the captive breeding program, the wild population had increased three-fold and was continuing to grow, though continued monitoring and follow-up vaccinations remained necessary to manage the population. In August 2016, USFWS removed the island foxes from the endangered list, which signaled the fastest recovery of a mammal in the history of the Endangered Species Act.[1145]

THE SANTA CRUZ ISLAND RESTORATION PLAN

One of the final obstacles to successful recovery of the island fox populations was the elimination of feral pigs on Santa Cruz Island as a food source for golden eagles. The ban on domestic use of DDT in 1972 created the opportunity for reintroduction of bald eagles to the northern islands. However, the lure of abundant prey such as pigs and mule deer fawns complicated efforts to remove the golden eagles. Pigs still remained in significant numbers on Santa Cruz Island as did mule deer on Santa Rosa. In light of this problem, the decision to begin reintroduction of the island fox in 2003 might have seemed premature except that plans had already been approved to eliminate the Santa Cruz Island pigs, and the 1998 Settlement Agreement called for reduction of the mule deer population on Santa Rosa Island.

The Eradication of Pigs on Santa Cruz Island

The Nature Conservancy had always intended to eradicate all pigs from Santa Cruz Island as well as the sheep. As early as 1987, TNC contractors inaugurated studies of the pig population with the aim of developing an eradication plan. The Conservancy had assured Carey Stanton

1144 Coonan et al. *Decline and Recovery*, 107-114.

1145 Ibid., Catalina Island Conservancy, "Foxes," http://www.catalinaconservancy.org/index.php?s=support&p=foxes Accessed 10 October 2012; By 2010, the Santa Catalina Island fox population had returned nearly to pre-crisis numbers.

that it would not interfere with the hunt by Channel Islands Adventures.[1146] The Conservancy then ended the company's exclusive right to hunt pigs on March 7, 1989, following Carey Stanton's death. However, a combination of factors prevented inauguration of a TNC-sponsored hunt. First, the cost of the project would be prohibitive and too much money had been expended already on eliminating the sheep. Pigs are much harder to locate and kill than sheep and their ability to reproduce meant that it would take a much more intense effort. Second, it would only work if the entire island was rid of them. This meant that TNC had to wait for the Park Service to acquire the Gherini property. Third, once the park owned a portion of the island, the National Park Service could share in the cost of the program. Finally, news of the sheep kill had come out and TNC wanted to avoid the inevitable reaction from animal rights people and others in the public. Sharing the spotlight with the National Park Service could ameliorate that negative attention.[1147]

The National Park Service, in cooperation with TNC, began developing a "Santa Cruz Island Primary Restoration Plan" in 1998. It had two fundamental purposes—to eliminate the pigs on the island and control the dense stands of the invasive Mediterranean sweet fennel. A decision was made to totally eradicate the pigs rather than try to control the population because the latter would prolong the destruction of natural and cultural resources and continually threaten all parts of the island with the return of the elusive animals. Control would also result in the killing of many more pigs and would be much more expensive than eradication. As soon as killing of pigs slowed or stopped, the population would rebound. Fennel had been introduced during the late 19th century and after more than a century grew over approximately 1,800 acres of the island, in some places comprising nearly 100% cover. The removal of cattle and sheep during the 1980s relieved grazing pressure that had previously kept the species under control. Biologists believed that feral pigs had contributed to the spread of fennel by dispersing seeds and causing soil disturbance that facilitated its establishment.[1148]

The park published a notice of intent to prepare an environmental impact statement on September 13, 1999. On October 8, it sent a letter describing the proposed plan to 124 organizations and individuals. That month the park also held a public scoping meeting in Ventura on the 20th and another in Santa Barbara a week later. These actions led to 17 comments, most of which urged public hunting to carry out the action. In March 2001, the National Park Service released its Draft EIS and held two more meetings at the Santa Barbara Museum of Natural History on March 5 and at the park headquarters the following day. Four alternatives were available: (1) no action; (2) simultaneous islandwide eradication of pigs after a burning and herbicide application to fennel; (3) elimination of pigs in the park portion of the island and control in other areas after the same fennel treatment; and (4) sequential islandwide eradication of pigs through "fenced zone hunting" after the same fennel treatment. Public comments on this proposed plan were mostly positive. Many respondents preferred alternative Two, which proposed initiating pig eradication without prior construction of the segmenting fences. This would allow treatment to begin sooner, but most NPS and TNC managers realized that it could not be effectively implemented under existing budgetary constraints. Many, therefore, deferred

1146 Letter J. David Sterner to Carey Stanton, June 28, 1987, Santa Barbara Museum of Natural History Archives, Bob Hansen Collection, Box 78, Folder 4035.

1147 Lotus Vermeer interviewed by Lary Dilsaver, March 12, 2018.

1148 Tim Setnicka to Mr. Reg Barrett, December 2, 1998, CINP Central Files, Drawer 6, Folder "Pig Litigation 3."

to the park's preferred approach in Alternative 4. This established the same target, eradication of feral pigs, but over a longer period of time and with greater assurance of success.[1149]

The draft drew more attention than the scoping had, especially from animal rights people. Fifteen of the 66 substantive comments suggested that rather than killing the pigs, the agency should use Gonex, a sterilant, to halt or slow reproduction. Scientists from the park and TNC responded that all existing sterilization treatments had proven ineffective as practical eradication methodologies and they would leave pigs on the island indefinitely to the detriment of native resources. Sterilization also would be cost prohibitive and it probably would be impossible to treat all the wily sows on the rugged island. Live capture and transfer to the mainland would suffer from the same costs and unlikelihood of success. In addition, USFWS, CDFG, and various other agencies rejected any transfer of the pigs for health reasons.[1150] Despite these concerns, animal rights proponents continued to challenge what they called the "inhumane slaughter" of pigs. The National Park Service countered that the allegedly humane alternatives proposed by animal rights activists were not necessarily less cruel than the preferred strategy of lethal removal by a "well-placed bullet." Failure to do anything at all had ethical consequences as well, as biologist Adrian Wenner observed in the following account from his field experience on Santa Cruz Island:

> *As a biologist, I have had extensive experience on the island and can report first-hand about the pig situation there. Feral pigs on the island number in the thousands. In good years, they reproduce to their full ability and soon exceed their food source. As they run out of easily obtainable food, such as acorns, they desperately plow up the ground in search of bulbs, roots and tubers, leaving the soil open to being washed away in future rains; and thereby exterminating native plants. They then eat non-nourishing grass as they starve. During the 1988 and 1989 droughts, for example, perhaps nine-tenths of the pigs died of starvation. But pigs don't starve immediately; as the weaker ones succumb, they get attacked and eaten by stronger pigs. At those times we could hear the squeals of pigs in such fights. By the end of 1989, nearly every pig I encountered was nothing more than a bag of bones that could hardly move. When they noticed us, they most often fell over as they tried to move. Even in good years feral pigs suffer. Last week we grabbed a piglet for examination. Dozens of black-legged ticks—vectors of Lyme disease—fleas and lice lived on its soft underside. Island feral pigs, when they overpopulate, cannot migrate to greener pastures; they starve. Is it more humane to let these feral pigs continue their overpopulation, starvation and cannibalism or eliminate a few thousand from the island now, before untold thousands die in the future during such cycles?*[1151]

These observations graphically described the consequences of an ecosystem that had been disrupted. Wenner strongly proposed that restoring the integrity of the native ecosystem, rather than intervening to alleviate the pain or suffering of individual animals, represented the only effective and lasting solution. This message had little effect on animal rights activists. Michael Makarian, executive vice-president of Fund for Animals, which had supported Robert

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1149 DOI, "Santa Cruz Island Primary Restoration Plan: Final Environmental Impact Statement." NPS, CINP, June 2002.

1150 CINP, "Santa Cruz Island Primary Restoration Plan," 147-86.

1151 Dr. Adrian W. Wenner, Professor emeritus, Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara, writing on May 8, 2001. Quoted in Santa Cruz Island Primary Restoration Plan, 181-182.

Puddicombe only one year earlier in his failed attempt to save the rats on Anacapa Island, commented publicly that the current NPS proposal was "an agency-wide vendetta against exotic animals."[1152]

Regional Director Jon Jarvis signed the "Record of Decision" that approved Alternative 4 in the Final EIS on February 2, 2003. The following September, Channel Islands issued task agreements to build the fences and begin the hunt. The park received line-item construction funds to build approximately 45 miles of pig-resistant fence to segment the island into five distinct management districts, each comprising about 12,000 acres. In many cases, the new fences paralleled the remnants of the earlier sheep fences on TNC property. The island's Central Valley constituted a *de facto* sixth district in the middle of the treatment area enclosing about 3,000 acres. Professional hunters would then kill the pigs by working sequentially in each district as its respective fencing was completed. The Final EIS had proposed a combination of fall burning followed by successive annual applications of herbicide application by aerial spraying and mechanical means to remove most of the fennel.[1153] Park biologists originally believed that this would assist hunters in locating their prey. When they learned that the pigs could be hunted effectively without first eliminating fennel, they dropped that part of the plan. This was a relief for botanists, who feared that the proposed burn-and-spray method would also eliminate native species that were beginning to come up in the fennel areas. Wildlife managers also pointed out that island foxes used the dense stands of fennel as cover from golden eagles. Fennel subsequently became a lower priority for park vegetation managers, who focused instead on invasive plants that are not as dependent on disturbed soil conditions including eucalyptus, olives, stone pines, and harding grass (*Phalaris aquatica*).[1154]

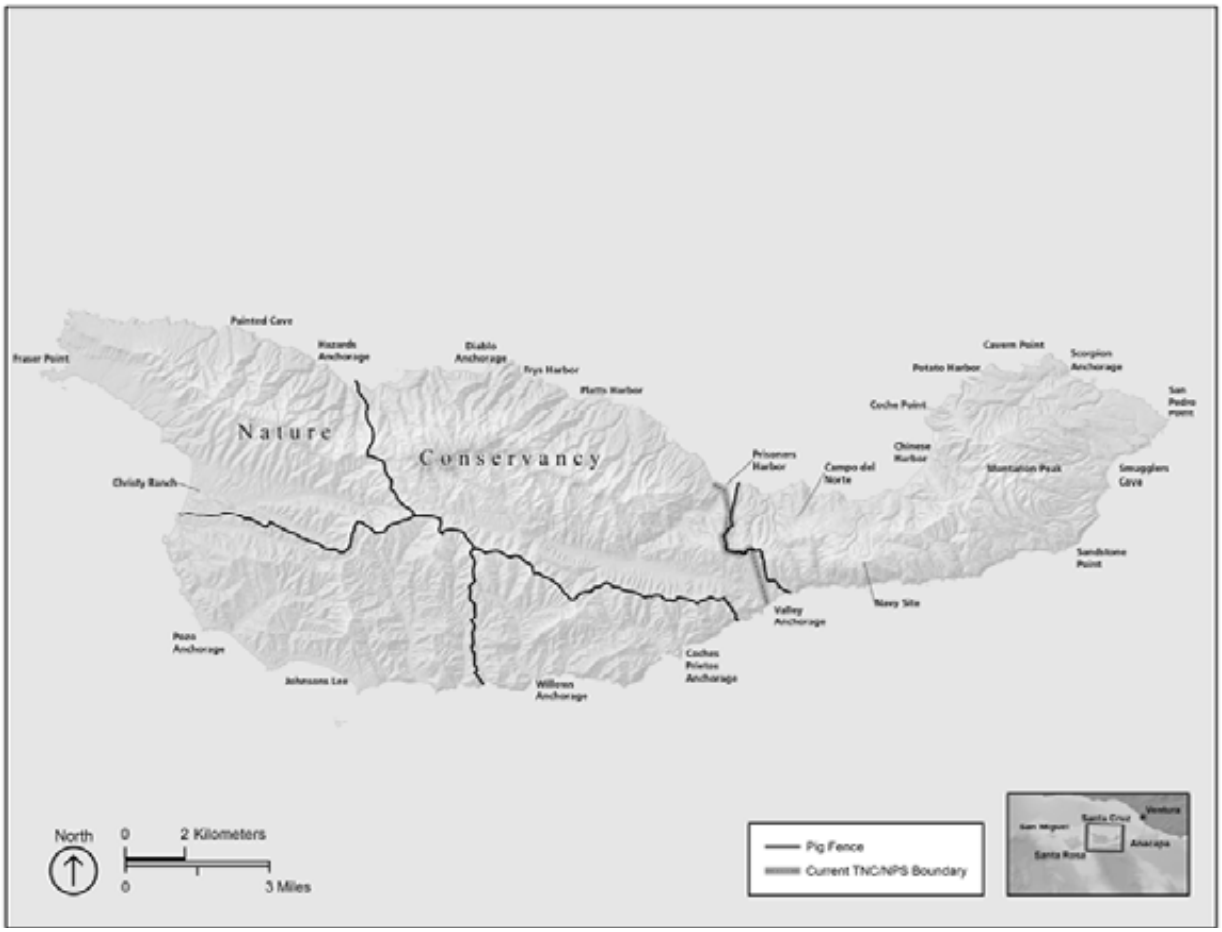
Figure 9-5. Active defoliant spraying is part of the Santa Cruz Island Restoration Plan to control the rapid growth of fennel.

Source: Photographer and date unknown. CINP Digital Image Files.

1152 Jenifer Ragland, "Hunters to Trap and Shoot Pigs on Santa Cruz Island," *Los Angeles Times*, September 17, 2002.

1153 "Santa Cruz Island Primary Restoration Plan," 13-14.

1154 Ibid., Kate Faulkner, e-mail correspondence with Timothy Babalis, July 8, 2010.



Map 9-2a. The Santa Cruz Island Restoration Plan devised by the Park Service and The Nature Conservancy sought to eradicate pigs by fencing the 60,752-acre island into five manageable areas with the hunts occurring sequentially.

Source: Cartography by Rockne Rudolph, Channel Islands National Park.

Map 9-2b. A sixth de facto zone around the Main Ranch was accepted in the February 2003 Record of Decision for the plan.

Source: Santa Cruz Island Restoration Plan, 2002.

Stemming from the agreement between the National Park Service and The Nature Conservancy that transferred the Isthmus to the park and enlisted TNC aid in island fox recovery, both organizations benefitted from cooperation in the removal of feral pigs. The Park Service paid for the planning procedure but each organization paid half of the cost of eliminating the pigs. Significantly, TNC could absorb the cost of the hunt immediately and wait for annual government appropriations to allow the agency to reimburse it.[1155] TNC, being a private organization, could also take action much faster than a government agency bound by deliberate and time-consuming bureaucracy. Finally, in the legal challenges to follow, TNC could rely on Morrison & Foerster, LLP, a San Francisco-based law firm that provided pro bono legal aid, to assist NPS solicitors in defending the action. In 2005, the National Park Service and TNC signed a two-year contract with the New Zealand-based company Pro Hunt. Its hunters began exterminating the pigs, unit-by-unit, in April of that year. Pro Hunt used a combination of techniques including aerial gunning from helicopters and pursuit with trained dogs. By the following year, the hunters had killed more than two-thirds of the feral pigs.[1156]

Unlike the pig hunt on Santa Rosa Island, the controversy over killing pigs on Santa Cruz Island did not abate. A storm of recrimination came almost daily from the *Santa Barbara News-Press*, national animal rights groups, and many local citizens who vilified the National Park Service. One unexpected source of severe criticism came in a three-article series by former superintendent Tim Setnicka who had been removed from that position two years earlier and who accused the National Park Service of lying, malfeasance, and a brutal disregard for the lives of animals. After seeing a slide show earlier that year at the park's 25th anniversary celebration, he wrote that "... it became apparent to all watching that a large portion of the park's history revolved around killing one species to save another."[1157] He went on to summarize each of the major eradication efforts undertaken by the park over the preceding three decades beginning with Superintendent Bill Ehorn's elimination of feral burros on San Miguel Island. He concluded that all of these projects had been undertaken surreptitiously to escape public oversight. Implicit in his conclusion was the suggestion that park staff knew they were doing something wrong and therefore had something to hide. Setnicka's article was couched as an exposé and designed to portray the park in the worst possible light. Not surprisingly, it was copied and distributed with great enthusiasm by animal rights groups, who took it as confirmation of their own suspicions and point of view. TNC also received a full dose of unwelcome attention. Lotus Vermeer, director of TNC's island operation during the process, recalled receiving hate mail, vandalism, and even death threats from unidentified sources. The park's biologists and other staff, already suffering some notoriety from the end of Vail & Vickers ranching and the acquisition of Francis Gherini's interest in East Santa Cruz Island, were branded as merciless killers.[1158]

Despite the park's scrupulous adherence to the NEPA process, a lawsuit was filed by plaintiffs Richard Feldman, a local Santa Barbara businessman, Rob Puddicombe fresh from acquittal over his attempt to defend Anacapa rats, and Elliott Katz, veterinarian and founder of In

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1155 CINP received a base funding increase of $498,000 in 2002 from the Natural Resource Challenge for the Santa Cruz Island restoration project, which included the pig eradication. (NPS, OFS electronic database 5224).

1156 Lotus Vermeer interview, 2018.

1157 Timothy J. Setnicka, "Ex-Park Chief Calls for Moratorium on Island 'Hunt,'" *Santa Barbara News-Press*, March 25, 2005.

1158 Ibid., Between 2004 and 2006, more than 40 articles and opinions appeared in the *Santa Barbara News-Press* decrying the pig hunt including those by Setnicka; Lotus Vermeer interview, 2018.

Defense of Animals, a California nonprofit advocating animal rights. Represented by the Rubenstein Law Group of San Francisco, the plaintiffs alleged that the Park Service had disregarded appropriate NEPA process and insisted that the hunting be stopped and nonlethal management alternatives be considered. They also claimed the hunt harmed them by depriving the public of the opportunity to view wild pigs. Federal District Judge Dickran Tevrizian Jr., found that NEPA did not require the National Park Service to absolutely justify its decision to all parties, only that it had to consider other alternatives. He also claimed that the balance of harm would be to the park and TNC if the pigs stayed and not to people who can see pigs at many other venues. He rejected their suit and denied all subsequent appeals.[1159] By June of 2006, Pro Hunt had eliminated all of the nearly 6,000 feral pigs on Santa Cruz Island. Initially, it was thought the hunt might take as much as six years to complete. The New Zealanders demonstrated their well-honed efficiency in ridding islands of nonnative species in only 18 months at a cost of approximately $5,000,000.[1160] TNC later hired another professional hunting contractor to begin eradication of exotic turkeys. The birds' population had increased following the removal of the pigs raising fears that they might replace the pigs as prey for golden eagles. That action too was challenged by the same cadre of animal rights people to no avail. By 2007, nearly all of the approximately 300 birds were dead.[1161]

The Retirement of Tim Setnicka

While serving as assistant superintendent under Mack Shaver, Tim Setnicka objected to many natural resource management projects. His hostility to the program delayed conservation efforts for the island fox and nearly proved catastrophic. It began with his lack of support for the proposed monitoring in the early 1990s, before the population actually began to decline. Monitoring of the island fox was finally implemented in 1993 but only through the determined efforts of natural resources staff, who prepared an environmental assessment to justify the proposal.[1162] NPS monitoring was limited to San Miguel Island, however, because Setnicka supported Vail & Vickers' opposition to monitoring on Santa Rosa Island and the National Park Service did not yet fully own any part of Santa Cruz Island. By 1999, when the island fox population had reached its nadir and only a handful of the animals remained in the wild, Setnicka, as superintendent, still failed to take any positive action. Only the combined authority of the Island Fox Conservation Working Group compelled him to support a captive breeding program.

Although Setnicka formally approved the breeding program, the park lacked adequate funds for its full implementation. In response, the park resource staff appealed to the regional office in

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1159 Gregory W. Griggs, "Suit Filed to Halt Pig Eradication on Santa Cruz Island," *Los Angeles Times*, May 20, 2005; Catherine Saillant, "Activists Seek Halt of Feral Pig Hunt," *Los Angeles Times*, July 8, 2005; Gregory W. Griggs, "New Court Fight Looms in Pig Killing," *Los Angeles Times*, July 15, 2005; Gregory W. Griggs, "Activists Seek Injunction Against Wild Pig Hunt," *Los Angeles Times*, August 23, 2005; Gregory W. Griggs, "2nd Bid to Stop Pig Eradication is Denied," *Los Angeles Times*, September 27, 2005.

1160 Gregory W. Griggs, "Camping Ban on Santa Cruz Island Is Lifted," *Los Angeles Times*, March 21, 2006; Gregory W. Griggs, "Suit to Stop Wild Pig Eradication Dismissed," *Los Angeles Times*, March 30, 2006; and Timothy J. Coonan et al., *Decline and Recovery*, 67.

1161 "Feral Pigs Become Scapegoats—In the US & Around the World," *Animal People News*, Jan./Feb. 2007 http://www.animalpeoplenews.org/07/1/feralpigsscapegoats1_07.html Accessed July 1, 2010.

1162 Gary Roemer, then a graduate student at the University of California at Santa Barbara, had originally proposed doing his doctoral field research on Santa Rosa Island but had to shift to Santa Cruz Island when the Vails objected to his proposal. The Vails were supported in their objection by Channel Islands Superintendent Tim Setnicka, who could have overruled them. Had Roemer been able to conduct his research on Santa Rosa Island, there would have existed a baseline dataset to evaluate the subsequent population decline of the island fox. The crisis might even have been detected sooner, since island foxes on Santa Rosa were considerably more vulnerable to golden eagle predation than on Santa Cruz.

San Francisco. Officials at the regional office then convened a panel of subject experts to investigate the situation. Panel members included Jim Shevock, the Cooperative Ecosystem Studies Unit coordinator from the University of California, Berkeley; Peter Dratch from the Park Service's natural resources directorate in Fort Collins, Colorado; and Natalie Gates, wildlife biologist from Point Reyes National Seashore.[1163] They traveled to Channel Islands, met with park staff, and quickly concluded that the recovery program needed more resources to be effective. They prepared a written report strongly recommending a base funding increase to be used for this purpose, but the panel also prepared an *unwritten* report—delivered orally to the regional director that vigorously criticized Setnicka's opposition to the recovery program.[1164] Soon thereafter, the National Park Service appropriated a base funding increase of $477,000 annually from the Natural Resource Challenge and the park was able to expand its captive breeding program to sustainable levels. This included hiring biological technicians on a term basis to maintain a consistent management presence on each of the islands where a breeding facility was located. Additional funds for fox recovery came from settlement of an environmental damage case in which the US Attorney directed the funds to restoration activities at Channel Islands National Park. These developments allowed full and ultimately successful implementation of the recovery program.[1165]

Setnicka's management style and actions became an issue by 2003. Acting Regional Director (and later NPS Director) Jonathan Jarvis, when asked in an interview what significant actions he took regarding Channel Islands, responded, "I selected Russell Galipeau as superintendent, I removed Tim Setnicka as superintendent." The complaints from the natural resource management staff were not the only ones coming from the park staff. Sometime after an incident in which Setnicka had used a fire extinguisher to spray a visiting fire captain who was demonstrating to park staff the proper use of the device, a member of the regional directorate and a Department of the Interior solicitor came to Ventura and interviewed park managers and staff for several days in a room at a nearby Sheraton Hotel. By the end of that week, Jarvis abruptly transferred Setnicka to a desk in the regional office.[1166] The *Los Angeles Times* queried the regional office about the sudden move and reported on October, 16, 2002:

> *The National Park Service official who removed Tim Setnicka as superintendent of Channel Islands National Park said Tuesday that his decision was based solely on the needs of the agency and not on any controversies kicked up during Setnicka's tenure. "It would be an overstatement and an exaggeration to say anything else was going on here," said Arthur Eck, deputy regional director in Oakland. Transferring managers is common in the park service, he said.*[1167]

1163 The Cooperative Ecosystems Study Unit is a cooperative agreement between the National Park Service and participating research universities which supports professional collaboration between academic scholars and government resource managers.

1164 Natalie Gates, telephone conversation with Timothy Babalis, September 23, 2009.

1165 "Recover Endangered Foxes at Channel Islands National Park," OFS electronic database; Jack Fitzgerald interview with Ann Huston, October 9, 2019.

1166 Jon Jarvis interviewed by Dan Wakelee, December 17, 2007, transcript in California State University, Channel Islands Archives; Interviews with many former employees of the park with Babalis in 2009 testify to resentment he caused. They are all in the CINP archives. The episode with the fire extinguisher is recalled by a number of the current staff who witnessed it at the time.

1167 "Park Chief's Transfer Routine, Official Says," *Los Angeles Times*, October 16, 2002.

Whether the *LA Times* reporter believed this innocuous explanation is suspect, however. On January 11, 2003, the same newspaper noted:

> *Tim Setnicka, who was recently reassigned from his job as superintendent of Channel Islands National Park, has retired. Setnicka, 57, headed the park from 1997 until last October, when he was abruptly removed from the job and given new duties at the National Park Service's Pacific West regional headquarters in Oakland. Setnicka, who spent 32 years with the park service, had a reputation for aggressiveness and blunt talk that some found intimidating.*[1168]

1168 "Blunt-Spoken Ex-Leader of National Park Retires," *Los Angeles Times*, January 11, 2003.

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CHAPTER TEN

Channel Islands National Park in the New Century

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CHAPTER TEN: CHANNEL ISLANDS NATIONAL PARK IN THE NEW CENTURY

As the centennial of the National Park Service approached, issues old and new continued to challenge the staff at Channel Islands National Park. Russell Galipeau became superintendent of Channel Islands National Park in May 2003. He had begun his Park Service career at Castillo de San Marcos National Historic Site in Florida at the age of 19. He later worked at the Southeast Regional Office; Canaveral National Seashore; Mammoth Cave, Everglades, and Wrangell-St. Elias National Parks; and became chief of resource management at Yosemite before taking over at Channel Islands. He managed Channel Islands for 15 years until June 2018 during which some pernicious issues ended while new threats emerged to challenge the entire national park system.[1169]

Superintendent Galipeau brought considerable energy to the park as he focused on learning and addressing the issues it faced. One result was a 2004 Business Plan based on a comprehensive review that described operational costs and expenditures, identified funding gaps, outlined key investment and operational priorities for the future, and offered strategies for decreasing costs and increasing partnerships and revenue. Galipeau wrote "the plan provides knowledge and understanding of the park's capacity to do work, just as the vital signs monitoring improves ecological understanding." The findings in the report became integral parts of an evolving general management plan.[1170] He also faced the prospect of renewing the Special Use Permit with Vail & Vickers on Santa Rosa Island.

Figure 10-1. The superintendents of Channel Islands National Park from 1974 to 2018 flanking former Congressman Robert Lagomarsino. From left to right: Tim Setnicka, Mack Shaver, Lagomarsino, Bill Ehorn, and Russell Galipeau.

Source: Photograph by Robert Schwemmer. March 2005, CINP Digital Image Files.

1169 "Galipeau retires from leading Channel Islands National Park after 40-year career," *Ventura County Star*, https://www.vcstar.com/story/news/special-reports/outdoors/2018/06/02/galipeau-retires-leading-channel-islands-national-park-after-40-year-career/641477002/.

1170 NPS, "Channel Islands National Park Business Plan," Department of the Interior, 2004, 2-3.

MANAGING NATURAL RESOURCES ON THE ISLANDS

After the pigs were gone from Santa Cruz Island and bald eagles returned to their island niches, the remaining exotic animals on the Northern Channel Islands included rats on San Miguel Island, Argentine ants on Santa Cruz Island, and the deer and elk belonging to Vail & Vickers. The National Park Service needed to address the latter as soon as possible because the Settlement Agreement was approaching its end in 2011. Only then could the National Park Service fully address water quality issues, high erosion rates, endangered and threatened plants, and recovery of native plant communities, with emphasis on woodlands, chaparral, and coastal sage scrub.

The Removal of Deer and Elk from Santa Rosa Island

The Settlement Agreement of 1998 was supposed to calm the conflict between Vail & Vickers and the National Park Service. Removing the cattle certainly improved the biological resources of Santa Rosa Island, but it did not quell the distrust of the Vail and Vickers families or the concern of resource managers for threatened native vegetation. The remaining elk and deer proved to be another source of intense debate and recriminations between the two parties. The Settlement Agreement imposed limits on the number of deer and elk that were allowed on the island each year. Beginning in 1999, Vail & Vickers were allowed no more than 425 deer and 740 elk on the island. Starting in 2000, an adaptive management approach began that would result in further reductions to deer and elk numbers based on the status of the indicator species that the National Park Service, US Fish and Wildlife Service, and the National Parks and Conservation Association had chosen—soft-leaved paintbrush (*Castilleja mollis*) and Santa Rosa Island manzanita (*Arctostaphylos convertiflora*). A three-person scientific panel established the monitoring methods and standards for the two species. If standards for their habitats and recovery were met, then the agreed-upon population sizes could continue through 2007. To ensure that all animals would be removed by 2011, when the Vail & Vickers Company's RUO for the 7.5-acre ranch complex ended. The Settlement Agreement included a four-year "phase out" period set to begin in 2008. The first year of the phase out required a 25% annual reduction from the 2007 numbers, with final eradication in 2011. At the beginning of that final year, the island should have had no more than 106 deer and 185 elk. Three problems entangled this apparently straightforward prescription in controversy: (1) a decision on how and by whom the animals would be counted each year, (2) continued evidence of ecological damage to endangered species, and (3) a late legislative attempt to maintain the cervids on the island past 2011 in spite of the Settlement Agreement (see plates 4a and 4b).[1171]

On June 20, 2001, the USFWS notified Park Superintendent Setnicka that data from his own scientists showed that the cervid management program was not working. This came after a meeting between Ray Bransfield and Bridget Fahey of the USFWS and Kate Faulkner, Tim Coonan, Dirk Rodriguez, and Sarah Chaney of the National Park Service. The latter supplied data on the growth and recruitment (reproduction rate) status of the indicator species. Fish and wildlife officials investigated the scientific panel's collective and individual reports and drew their own conclusions. They warned that the manzanita situation on the island was tolerable in one area and poor in another (South Point); the deer population was much higher than the maximum allowed having reached nearly 1,000 in 1999; and that the loss of seed bank and soil erosion were

1171 DOI, Resources Management Plan for Improvement of Water Quality and Conservation of Rare Species and Their Habitats on Santa Rosa Island: Final Supplement to the Final Environmental Impact Statement (Ventura, CA: National Park Service, CINP, 1998).

"alarming." The USFWS staff at the Ventura office recommended that the deer population be reduced to 350 individuals. They noted that Dr. Ed Schreiner of the scientific panel recommended cutting the number to 250 given the high birthrate of the animals and Dr. Michael Barbour allowed 425 but recommended a focused cull in the South Point area. The letter did not cite what Dr. John Menke, the Vail & Vickers appointee to the panel, recommended.[1172]

On May 15, 2002, Russ Vail contacted NPS Regional Director John Reynolds to ask what the Park Service would require so he and his family could form a new company—Vail Family LLC (Limited Liability Company). Along with The Vickers LLC, it would manage the "Commercial Deer and Elk Operations" on the island. It was legal protection for the Vails in case of claims by hunters. Notable in the terms was a stipulation about the passing of the living members—Russ Vail, Catherine Vail, the widow of Al, and Margaret Vail Woolley. The National Park Service approved the new SUP with a clause that the Vail Family LLC could not "assign, transfer or sell the interests in V&V to non-Family members." In other words, only the descendants of the principals could inherit those interests. In short order, the National Park Service began communicating with Timothy Vail, son of Russ, Nita Vail, daughter of Al, and Will Woolley, son of Margaret in the active management of Santa Rosa Island.[1173] Vail & Vickers signed the new SUP in early February 2004, and the National Park Service issued it on March 3, 2004. It specified that the permittee must not interfere with NPS research and management at any time or in any area. It also stated that the agency had the right to monitor and inspect the company's hunting operation whenever it saw fit.[1174]

Superintendent Galipeau later recalled that counting elk on Santa Rosa Island was like counting cars in a parking lot—easy. However, counting deer on the island was like trying to count leaves in a parking lot on a windy day. They do not typically travel in herds, they move around a great deal, and they hide well. The Settlement Agreement committed the National Park Service and Vail & Vickers to cooperatively count the animals each year. Most of the work was done by aerial survey with the cost split between the two parties. It did not take long for the park's resource managers to question the methodology of the annual December counts. Believing that the number of deer was significantly higher than what was being recorded, the park turned to professional ungulate biologist Dr. Peter Gogan of the US Geological Survey for advice. He participated in the 2006 survey, studied the scientific literature on the subject, and made several recommendations to improve the validity of the count. Up to this point, Vail & Vickers had set the dates and most of the protocol for the annual surveys. Gogan made three suggestions: (1) adding ground surveys to find animals that were hidden by vegetation during daylight hours, (2) marking a number of deer so that if later counts showed only a fraction of the marked individuals it could be assumed that an equal proportion of the unmarked ones might be hidden, and (3) having the National Park Service conduct and pay for a unilateral second count each year during August. Timothy Vail sent a strongly worded letter challenging all these ideas as well as other unnamed recommendations. He held that a ground survey would be difficult, expensive, and cause a game drive of fast-moving deer that would inflate the count. He absolutely forbade marking the animals which remained his company's private property. Vail

1172 Acting Field Supervisor, Ventura Office of USFWS to Superintendent CINP, June 20, 2001, CINP Central Files, 2.A.1, "Vail & Vickers," Folder 5.

1173 Barbara Goodyear to Russell Vail, March 27, 2003, CINP Superintendent's files, Folder "SRI V&V Correspondence"; "Draft Vail and Vickers SUP Renewal," June 16, 2003, Ibid.

1174 "Special use Permit for Commercial Deer and Elk Hunting Operation on Santa Rosa Island, October 1, 2003 to December 31, 2008," CINP digital archives, March 3, 2004.

also insisted that the Settlement Agreement mandated cooperative counts and the Vails would sue the Park Service if they tried to conduct a unilateral one. Superintendent Galipeau defended Gogan and stated that the SUP did not restrict counts to one per year, that a planned ground survey would indeed take place, and that the next year (2008) would require the first 25% reduction in the cervid populations.[1175]

In 2006, the park had produced an internal report on the effects of deer and elk on the natural and cultural resources of Santa Rosa Island. It heaped criticism on the presence of the cervids and on the hunting operation that was their *raison d'etre*. Part of it was triggered by a December 19, 2005, discovery of a bald eagle suffering from eating fragments of a lead bullet fired by a hunter. That had triggered the report that cited four categories of negative impacts. First, deer and elk threatened federally endangered plants, some of which occur only on Santa Rosa Island. *Castilleja mollis* seemed to be recovering, albeit slowly, but the Santa Rosa Island manzanita was not:

> *This red-barked plant, like many other island shrubs, is heavily browsed by deer and elk, and cannot produce seeds because the flowers are eaten off. This plant depends on seeds for the next generation. Most Santa Rosa Island manzanita appear to be very old, probably predating ranching. We could lose the species in the wild if this older generation dies without producing a good bank of seeds.* [1176]

Second, the presence of these cervids threatened the federally endangered island foxes. The unfolding island fox-golden eagle crisis led resource managers to discover that mule deer fawns had become the most important single food item for that species of raptor, comprising over 33% of the food adult golden eagles fed to their nestlings. This allowed them to remain on the island and prey on island foxes. Third, the hunt threatened native wildlife and interfered with administration of the park. The bald eagle with lead poisoning was one problem. Another was the hunt itself, which closed over 50% of the island to NPS staff, researchers, and visitors from August to September, a prime public visitation period. This made it extremely difficult for park staff to release and monitor island foxes. Finally, quoting statements by archeologist Torben Rick, the report charged that deer and elk irreparably harmed archeological resources. Rick proffered:

> *Because many Santa Rosa Island sites are shell middens with loose and very organic soils, they are perfect places for deer and elk to bed down, root, and trample. They are known to cause mixing of archaeological materials, destruction of archaeological materials, and when they die on a site they also introduce their bones to that site which threatens the original context.*[1177]

Timothy Vail called most of these claims disingenuous or flat out wrong.

In the midst of this controversy, another threat appeared led by a congressman from a completely different area of California. Republican Duncan Hunter from San Diego County, who chaired the House Armed Services Committee, suddenly attached a rider to the 2007

1175 Timothy B. Vail to Russell E. Galipeau, July 6, 2007, CINP Superintendent's files, "SRI V&V Correspondence 2007; Russell Galipeau to Vail & Vickers, July 24, 2007, CINP Central Files, 2.A.1. "Vail & Vickers." Folder 6.

1176 CINP, "Effects of Deer and Elk on Santa Rosa Island," CINP digital files, n.d.

1177 Ibid.

defense authorization bill ordering that the deer and elk on Santa Rosa Island be protected and the island become a hunting refuge for disabled veterans (H.R. 5122). He claimed that while driving down the coast with two injured US Marines he saw the island and they told him about the impending end of the cervids and hunting. He decided that shifting ownership of the island to the Department of Defense and preserving the deer and elk would be a proper way to honor the nation's disabled veterans. He added that it might also serve as a training center for special operations forces. A second part ordered the Settlement Agreement to be rescinded. Hunter appealed to Paralyzed Veterans of America to send a member to the island to highlight the opportunity. The veterans' group did so and the man flew to the island with Superintendent Galipeau and other park officials. Galipeau recalls that he was a pleasant young man who seemed slightly bewildered about his task. Not long after, the organization abandoned support claiming that the island's steep hills and washes could not be traveled by its members. His amendment did not receive support during the conference committee between the House and Senate. In spite of this setback, Hunter added section 1077 to the massive defense authorization bill that passed on October 17, 2006 as Public Law 109-364. It forbade the Park Service from destroying or removing the deer and elk from Santa Rosa Island. Hunter still hoped to make the island a veterans' hunting ground.[1178] The Vails had not met Hunter and did not participate in drafting the legislation, but they were pleased that it would save the cervids and perhaps their hunting operation.

The Department of the Interior and local Representative Lois Capps, a Democrat, were caught off guard. The prospect of losing the island after years of intense effort to restore its ecological integrity and millions of dollars spent appalled the Park Service, environmentalists, and most of the local mainland population. Capps had vigorously opposed Hunter's bill and testified to the full House:

> *Yesterday, I spoke about a provision in the defense bill that has nothing to do with helping our troops and everything to do with congressional hubris. This provision would kick the public off Santa Rosa Island, a part of Channel Islands National Park. Mr. [Victor] Snyder [D-Arkansas] and I have an amendment to strike that provision, but the Republicans on the Rules Committee have decided the House just won't vote on it. This provision affects a national park in my congressional district. There have been no hearings on it. DOD [Department of Defense] didn't ask for it. Park Service flat out opposes it. Yet, it is in the bill with no discussion, no opportunity to let the House decide whether it is a good idea or not to kick the taxpayers off the land that they spent $30 million for.*[1179]

Almost immediately Capps contacted California Senators Dianne Feinstein and Barbara Boxer, both Democrats, and together they planned to introduce legislation to overturn the section 1077 law. On April 25, 2007, the senators introduced S. 1209 and Representative Capps introduced H.R. 2029 to repeal it. Entitled the "Channel Islands National Park Management Act of 2007," the proposed act:

> *Requires the Secretary of the Interior to manage Santa Rosa Island, Channel Islands National Park in California: (1) in accordance with the National Park Service*

1178 Public Law 109-364, Section 1077, "To authorize appropriations for fiscal year 2007 for military activities of the Department of Defense," 120 STAT. 2083.

1179 *Congressional Record*—House, May 11, 2006, H2534-35.

> *Organic Act, title II of Public Law 96-199 (relating to the establishment of the Park), and any other laws generally applicable to units of the National Park System; and (2) in a manner that ensures that the natural, scenic, and cultural resources of Santa Rosa Island are protected, restored, and interpreted for the public and visitors to the Park are provided with a safe and enjoyable Park experience. Repeals a provision of the John Warner National Defense Authorization Act for Fiscal Year 2007 which requires the Secretary of the Interior to immediately cease the plan to exterminate deer and elk on Santa Rosa Island by helicopter.*[1180]

This time there was a public hearing before the Senate Subcommittee on National Parks on May 15, 2007. All the interested parties spoke or submitted statements. Former congressman Robert Lagomarsino recalled the events surrounding the 1980 enabling legislation including promises made to Vail & Vickers to let them ranch until 2011. He again urged that their operation not be ended before that date. Timothy Vail submitted an 11-page statement reiterating the entire history of his company's relations with the National Park Service as the Vails & Vickers members saw it. He emphasized their current belief that it was a tragedy that the Park Service wanted to engage in an "unnecessary slaughter of healthy and magnificent elk and deer herds." He added the newspaper pieces by former Superintendent Tim Setnicka who had accused the Park Service of a secret vendetta against nonnative animals that led them to lie, obfuscate, and break laws to accomplish their program. The National Parks and Conservation Association and the National Park Service naturally supported the bills. A group of pro-hunting organizations led by the National Rifle Association vehemently opposed them. Several Republican senators also opposed the bill, notably Don Young (Alaska) who had hunted on Santa Rosa Island. Duncan Hunter later claimed that the only purpose his law ever had was to prevent the slaughter of the deer and elk.[1181]

Eventually, S. 1209 became part of Public Law 110-161, the Fiscal Year 2007 Omnibus Appropriations law signed on December 26, 2007. Entitled, "Restoring full public access to Santa Rosa Island," it ended the most serious political threat to the Park Service's program for ecosystem restoration. Vail & Vickers swallowed another bitter defeat that deprived them of an indefinite future on their island. Conflict over the populations of the deer and elk, how they were surveyed, unsuccessful efforts by the National Park Service to mount a second unilateral count in a given year, and more data on the status of the threatened species continued as 2011 approached. While most of the national media reported on the private hunting and how it restricted public access, a steady supply of articles sympathetic to the Vails told their side of the story. Ranching magazines, local newspapers, particularly the *Santa Barbara News Press*, and occasionally national venues aired the sad story about the end of a way of life. It became a fact in the minds of many locals and is still aired by long-time residents.[1182]

On January 2, 2008, Timothy Vail wrote to Superintendent Galipeau again criticizing Peter Gogan for deer counts consistently higher than those conducted by himself and Wayne Long, owner of the hunt company Multiple Use Management. Vail pointed out that Gogan sat in the rear helicopter seat with the poorest view yet came up with a higher deer count. He also implied

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1180 S. 1209, "Channel Islands National Park Management Act of 2007," 110th Congress, April 25, 2007.

1181 "Legislative Hearing on S. 1209 before the Subcommittee on National Parks of the Committee on Energy and Natural Resources," 110th Congress, May 15, 2007.

1182 "End of an era on Santa Rosa Island," *Ventura County Star*, November 12, 2011.

that by not turning in his count sheets immediately after the flights he might be doctoring them later to present the higher figures. Galipeau responded three weeks later expressing concern that Vail thought Gogan might be "incompetent or cheating," and again rejecting the implication. A month later he reminded Vail that at the end of that year the cervid counts needed to be no more than 318 deer and 555 elk.[1183] The claims and complaints in the correspondence from the Vails were so virulent and continuous that it led Galipeau to request clarification of "unresolved questions" connected to the SUP rights from the regional office even though the 2003 SUP appeared straightforward.[1184]

The poisoned relationship between Vail & Vickers and the park's resource management severely curtailed communication. The question remained—What would the Company do to remove its ungulate property from the island by December 31, 2011? Throughout the years of controversy, the National Park Service had never insisted that all the animals be killed. It simply wanted them off the island. During the 1990s, Vail & Vickers had moved some elk to a game reserve in Michigan. But adult mule deer do not typically survive transport and no viable market existed for them. Fears of disease among the island's elk worried state and federal authorities and testing all the elk on the island promised to be egregiously expensive and delay their removal by as much as two years. Studies also showed that the deer had a reproduction rate of 34% annually. This already threatened to prolong any form of removal. Before 2008, the park suggested that the hunts focus on female deer to counter this increase but the former ranchers never implemented that procedure.[1185]

Vail & Vickers faced a difficult decision. The company had the responsibility to remove any deer and elk on the island by the end of 2011 or they would have to share the cost of all subsequent eliminations with the National Park Service. Superintendent Galipeau offered to help with a deal to save them effort and money. He would simply state that the owners had done all they could and had maintained the herds under the maximum population numbers, which he actually did not believe they had done. That would trigger a clause in the last SUP that would let the Park Service take over the animals and deal with them as it would. Timothy Vail initially rejected this transfer of assets to the park but, after reflection and consultation with the other owners, he called Galipeau and accepted the solution. The superintendent had one other stipulation for this to work. Members of Vail and Vickers families had to stop berating the Park Service in the media. On April 10, 2011, three Vail heirs and three Vickers heirs signed the agreement.[1186] Eight days later, the NPCA as signatories to the 1998 Settlement Agreement added its approval. Multiple Use Management conducted a last commercial hunt in October 2011 and the Vails left the island at the end of the year. The Park Service used a professional hunt organization called White Buffalo to eliminate the rest of the ungulates. The hunters used a combination of ground hunting and helicopters. The elk presented no problem, but the deer were elusive and it took until 2014 to

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1183 Russell Galipeau interviewed by Lary Dilsaver, March 19, 2018; Timothy Vail to Russell Galipeau, July 6, 2007, CINP Superintendent's files, Folder "SRI V&V Correspondence 2007"; Russell Galipeau to Timothy Vail, July 24, 2007, CINP Central files, 2.A.1, "Vail & Vickers Folder 6"; Timothy Vail to Russell Galipeau, January 2, 2008, CINP Central files, 2.A.1, "Vail & Vickers Folder 6"; Russell Galipeau to Dr. Vail, January 25, 2008, Ibid., Russell Galipeau to Permittees, February 26, 2008, Ibid.

1184 Russell Galipeau to the Files, "Unresolved Questions (legal or policy citations required for answers," 2008, CINP Superintendent's files, Folder "V&V Correspondence 2008."

1185 Russell Galipeau interview, March 19, 2018; Kate Faulkner e-mail to Lary Dilsaver, November 16, 2018.

1186 Nita Vail, Timothy Vail, Susan M. Woolley, Sandra Vickers Naftzger, Henry Vickers Eggers, and Ann Vickers Crawford-Hall, "Supplement to Special Use Permit PWR-CHIS-2600-09-01," CINP Superintendent's files, Folder "SRI SUP Supplement"; Susan F. Petrovich to Russell Galipeau, April 21, 2011, Ibid.

be sure they were gone. White Buffalo's final report stated that they had eliminated approximately 479 deer during that period, a number that was substantially higher than the Settlement Agreement permitted Vail & Vickers to have on the island.[1187]

The Nature Conservancy on Santa Cruz Island

The Nature Conservancy management of the western 76% of Santa Cruz Island matched the natural resources policies of the National Park Service and coordinated with the government agency's programs. Removal of all the domestic and feral livestock allowed TNC to address the floral exotics and participate in wetland recovery at Prisoners Harbor with the National Park Service. It also expanded its outreach to potential donors and others interested in its core mission of restoration ecology. Among its restoration accomplishments with the Park Service were protection of the island fox, the eradication of feral wild turkeys and honeybees, the reintroduction of bald eagles to the island, and progress toward the eradication of 32 species of nonnative invasive plants. The experience gained from these actions led TNC to prepare an equivalent to an NPS general management plan entitled, "Santa Cruz Island Ecological Management Strategy 2015–2025" released in August 2015.

The plan's authors noted that much of the conservation work conducted on Santa Cruz Island over the previous decades was reactive, addressed severe and urgent threats, and usually required the removal of invasive species. The new plan outlined a proactive management strategy with the following long-term goals:

1. The full suite of Santa Cruz Island's natural communities and the populations of native species constituting them are viable in the long term with a minimum of management action.
2. All major threats to island biota including invasive nonnative species, novel diseases, climate change, human-ignited and natural wildfire, and disturbance by visitors and infrastructure built to serve them are eliminated, minimized, or mitigated.
3. Full native plant cover is rehabilitated to priority areas that were denuded by introduced animals or stripped of vegetation and soils by other anthropogenic activities.
4. Populations of native species deemed to have been extirpated from the island by anthropogenic activities are restored if deemed capable of long-term survival with minimal management following reintroduction and re-establishment.
5. Research results and lessons learned from conservation actions are systematically shared with the broader scientific and conservation management communities.
6. Legislation and policies that prevent, hinder, or unnecessarily slow conservation and restoration on Santa Cruz Island and the other California Islands are revised and policies that incorporate up-to-date information, ecological concepts, and best management and planning practices are adopted.[1188]

1187 Susan F. Petrovich to Russell Galipeau; "Pro Hunters Hit Santa Rosa Island," The *Santa Barbara Independent*, October 15, 2011; A note written on the printed copy of this article indicates that White Buffalo was the contractor used in the hunt. That information was conveyed to Russell Galipeau by Greg Gress of the regional office; Kate Faulkner e-mail to Lary Dilsaver, 2018.

1188 John J. Knapp, John M. Randall, Christina L. Boser, and Scott A. Morrison, "Santa Cruz Island Ecological Management Strategy 2015-2025," The Nature Conservancy, August 2015.

The authors promised that the strategy would be revised every two years based on reviews of its success or failure.

Elimination of Argentine Ants

At the same time TNC released its plan, it coped with another invasive species that affected the island. This time the National Park Service and TNC cooperated to eradicate Argentine ants (*Linepithem humile*) from areas controlled by both organizations. Scientists believe the insects may have arrived on Santa Cruz Island as early as the 1960s, but were not identified there until 1997. At that time, Adrian Wenner documented the Argentine ants at two dismantled navy facilities (the Blue Site near Valley Anchorage and the White Site near the US Navy Base) on Santa Cruz Island. Materials were moved from the Valley Anchorage site to the UC Reserve complex, which spread them to Canada del Puerto; the ants spread out on their own to the Cañada del Medio and were present in all four areas by 2010. Biologists dreaded the potential for Cañada del Puerto invaders to wash down the stream, establish a new colony at Prisoners Harbor, and be picked up by visitors and spread all over the island. Valley Anchorage was by far the largest ant zone and the most rapidly expanding one. Argentine ants have a strong competitive ability and a diverse diet. They threaten numerous endemic insects and 70 species of island birds including the endemic and rare island scrub-jay. They impact the native invertebrate community through direct predation, egg predation, and competition. They can swarm larger organisms and biologists feared that they might also threaten the future of ashy storm petrels and Scripps's murrelets.[1189]

Research on Argentine ants began on the mainland where they commonly inhabit urban areas. The queens do not fly, hence the spread overland is relatively slow. This allows easy delimitation of their colonies and focused treatment. TNC and National Park Service worked to find the appropriate concentration of toxicant to avoid killing the foragers and allow them to bring the bait back to the nest for the other ants, particularly the queen. Field testing on Santa Cruz Island took place from 2010 through 2014. Resource managers planned to again delimit the infested areas with an extra buffer of 164 feet (50 meters) to account for wandering ants or cryptic nests outside the boundaries. They would concoct a bait from commercially available .0006% and .0018% thiamethoxam mixed with a 25% sucrose solution and chicken eggs and sugar. Helicopters would deploy the bait over infestations at a rate of 16 gallons per acre. Applications would occur 12 times during the dry season from May through November 2015. If monitoring over the next 10 years showed a new nest thereafter it would receive four hand-applied treatments to ensure eradication.[1190]

Public scoping began on August 22, 2014, with a press release and establishment of a project website. Chief among the respondents was the US Fish and Wildlife Service. Its biologists were concerned about the potential side effects on federally listed species, especially the recently recovered island fox. Eventually, they agreed with program administrators that a fox is too large to be deleteriously affected by consuming the ants or the bait. Testing also showed that the impact of the treatment on water resources, flora, and other faunal species was very low. By

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1189 CINP, "Management of nonnative Argentine Ants; Santa Cruz Island," January 15, 2015, 5-14, 29-36. file:///D:/Documents/Writing%20CHIS/Argentine%20Ants/Management%20of%20Argentine%20Ants%20on%20Santa%20Cruz%201-15-15.pdf.

1190 Ibid.

August 2018, the 1,600-acre Valley Anchorage site and other infestation sites appeared to be completely free of Argentine ants.[1191]

Avifauna on the Islands

Birds are among the most important and diverse of the vertebrate fauna on the Channel Islands. Many of the restorative actions taken by the National Park Service have been triggered by declines in avian species and numbers including the elimination of rats on Anacapa Island, fencing and beach closure to protect snowy plovers on Santa Rosa Island, reintroduction of bald eagles on Santa Cruz Island, the ban on public visitation on West Anacapa Islet to protect brown pelicans, and the rehabilitation of the peregrine falcon population. Indeed, much of the motivation for eliminating nonnative species came from efforts to reestablish the habitats that supported endemic land birds and rare seabirds. The islands have benefitted from research and management by trained ornithologists, either as employees or consultants since before the park was created.

The intense focus on protecting bird life at Channel Islands is demanded by their rarity and diversity. Dr. Paul W. Collins of the Santa Barbara Museum of Natural History compiled a list of 387 species of birds found on or within 2.1 miles (1.5 kilometers) of the five park islands in 2011.[1192] The majority are visitors that travel the Pacific Flyway as the seasons pass. The park's 2014 Natural Resource Condition Assessment listed 48 land birds and 13 seabirds that breed on the five park islands.[1193] The Channel Islands National Marine Sanctuary's 2016 Condition Report stated that eight breeding seabird species are granted special protected status under federal or California state law. They include the ashy storm-petrel (*Oceanodroma homochroa*), black storm-petrel (*Oceanodroma melania*), California brown pelican (*Pelecanus occidentalis*), California least tern (*Sterna antillarum browni*), double-crested cormorant (*Phalacrocorax auritus*), rhinoceros auklet (*Cerorhinca monocerata*), Scripps's murrelet (*Synthliboramphus scrippsi*), and western snowy plover (*Charadrius alexandrinus nivosus*).[1194] Eradication of nonnative ungulates has altered the habitats on the islands resulting in recovery of some species, but the ongoing climate change worries ornithologists and park resource managers. Monitoring land birds began on several of the islands in the park in 1993, and in April 2000, a formal technical review of the program improved the sampling design, methodology, database, and data analysis and reporting procedures. Based on this long-term monitoring, NPS Biologist Timothy Coonan and others reported in 2011:

> *Investigation of habitat utilization via selectivity and diversity indices revealed complex patterns of habitat utilization for 15 species. Landbird diversity generally increased with increasing habitat diversity, with woodland, riparian, pine and chaparral habitat types having the greatest landbird use. Grasslands had*

1191 Lyndal Laughrin interviewed by Lary Dilsaver, August 30, 2018.

1192 Paul W. Collins "Channel Islands National Park Bird Checklist," November 4, 2011 https://www.nps.gov/chis/learn/nature/birds.htm Accessed January 3, 2019.

1193 NPS, "Channel Islands National Park Natural Resource Condition Assessment," 2014, 35-38.

1194 Channel Islands National Marine Sanctuary, "Channel Islands National Marine Sanctuary Condition Report 2016, Volume 1," NOAA, Office of National Marine Sanctuaries, 2018, 36.

> *surprisingly high species richness, perhaps due to sampling size but also to invasion of grass areas by native shrubs and relaxed niches for island species.*[1195]

Each of the park's islands supports seabird colonies, with various species using different islands. However, the most important are Santa Barbara, San Miguel, including Prince Island and Castle Rock, and the islets of Anacapa. Efforts to improve East Anacapa habitat continue with the removal of exotic ice plant and replanting of native species. This effort has been supported by funds from the Montrose Settlements Restoration Program.[1196]

Figure 10-2. NPS biological technician Clark Cowan rolling up ice plant on East Anacapa Islet with a bulldozer demonstrates the hardiness of the nonnative species.

Source: Photographer and date unknown. CINP Digital Image Files.

One island endemic found on a single island, the Santa Barbara Island song sparrow, has become extinct during the past century. To prevent a recurrence, the TNC has taken the lead in researching and monitoring the island scrub-jay (*Aphelocoma insularis*), which exists only on Santa Cruz Island. This has led resource managers to ponder a solution that tests the entire NPS mission. The agency is allowed to reestablish a species population if it can be shown that it once

1195 Timothy J. Coonan, Robert C. Klinger, and Linda C. Dye, "Trends in Landbird Abundance at Channel Islands National Park, 1993-2009," Natural Resource Technical Report NPS/CHIS/NRTR—2011/507, CINP Digital Files, ix, 41, file:///D:/Documents/Writing%20CHIS/Birds/Land%20Birds/Landbirds%201993-2009.pdf

1196 NPS, "Natural Resource Condition Assessment."

existed in a park area but disappeared due to human causes. If natural causes led to extirpation, the Park Service should not interfere. The island scrub-jay appears to have separated from the mainland ancestor about one million years ago and existed on Santarosae. Fossil evidence has been found on San Miguel and Santa Rosa Islands in the precontact human period. On the latter, the fossils appear to be 10,000 years old, but on San Miguel they date to within the last millennium. There are also notes of an ornithologist who visited Santa Rosa Island in 1982 and reported being told by the ranch foreman that scrub-jays occurred on the island.[1197] This suggests that the birds were probably on Santa Rosa until at least that time. The issue was highlighted by TNC biologist Scott Morrison in 2014:

> *Conservation planning for the island scrub-jay. . .may warrant a near-term decision about non-traditional management interventions, and so presents a rare, specific case study in how managers assess uncertainty, risk, and urgency in the context of climate change. To address that question, managers need to understand when and why the jay population went extinct on Santa Rosa Island: did it go extinct "naturally" in prehistoric time, or did it go extinct more recently due to anthropogenic factors? Depending on which it is, a reintroduction either would be consistent with a general interpretation of National Park Service (NPS) policy—i.e., restoring parks to their historic, natural condition—or it would be a more interventionist manipulation of the landscape, possibly even an "impairment" of the park.*[1198]

If the birds inhabited Santa Rosa Island into the 1800s, the massive damage by sheep to its preferred woody habitat likely was the cause of its disappearance. Yet other considerations mandate extreme care in manipulating ecosystems. Ornithologists are uncertain about the impact of the birds on the recovering habitats of Santa Rosa Island. Island scrub-jays could have an adverse impact on other rare passerines by nest predation. Alternatively, restoration of the island scrub-jays could benefit native floral species including island oaks and Torrey pines. The caching behavior of jays can accelerate restoration by disseminating seeds of the tree species, and may have contributed already to native vegetation recovery on Santa Cruz Island following the removal of sheep. Resource managers at Channel Islands are still researching the broader environmental implications of transferring the island scrub-jays and searching for answers about the threat climate change poses for the birds' survival prospects with and without a second island home. They closely monitor what is the country's only insular endemic species of passerine birds.[1199]

Fire Management

As the new millennium began, Channel Islands National Park gathered data for its next fire management plan. The need for a new plan was spurred by the recent removal of cattle from Santa Rosa Island and sheep from East Santa Cruz Island, as well as a directive from the National Park Service to plan for a "wildland urban interface initiative." Because non-NPS lands abutted park property, this type of plan was required. Citing the expected surge in the fuel load with post-grazing vegetation growth, the park requested $441,000 to complete GIS-mapping of the five

1197 Kate Faulkner comment to CINP, May 4, 2020.

1198 Scott A. Morrison, "A Bird in Our Hand: Weighing Uncertainty about the Past against Uncertainty about the Future in Channel Islands National Park," *The George Wright Forum*, 31 (1) 2014, 77-93.

1199 Ibid.

islands, especially the TNC portion of Santa Cruz, acquire new equipment, and hire a temporary employee to administer the planning process.[1200] On June 26, 2001, an event occurred that reinforced the need for a new fire management plan. At 8:00 a.m., a less than 2-acre fire known as the "Ford Point Fire" was reported on Santa Rosa Island. The grass fire grew to approximately 36 acres before it was contained the same day. It was not a dangerous fire and it did not do significant damage, but the response highlighted a number of deficiencies in communications that could have resulted in a more serious conflagration. The park's fire specialist did not have a cell phone or pager and could not be reached, nor could anyone contact the fire management officer at Santa Monica Mountains National Recreation Area. Los Padres National Forest did supply a fire suppression plane before their normal 9:00 a.m. workday start, but even that frustrated Chief Ranger Jack Fitzgerald who had been required to purchase a ride from Aspen Helicopters to get to the site. A post-fire investigation reiterated the call for a new fire management plan. First, however, the park secured a cell phone for its own fire specialist.[1201]

After the infamous Yellowstone Fire of 1988, the National Park Service underwent a rigorous review of its policies and a new plan for all federal land agencies was promulgated in 1995. Six years later, a review of that fire plan upheld the basic policies of the National Park Service that stressed human safety; urban interface fire prevention; careful use of prescribed burns when appropriate; fire suppression when any threat to people, infrastructure, endangered species, or atmospheric conditions warrant it; a closely monitored "let burn" policy where none of these problems are present; and an absolute requirement for every land unit (park) to have an individual fire management plan.[1202] In June 2006, Channel Islands National Park released a more detailed and sophisticated fire management plan that included adaptations based on new research, broadened partnerships with other fire control agencies, and a more extensive public review, but did not significantly change the goals. Fire suppression remained paramount in any case of wildland fire, defined as "all fires that are not ignited by park managers for specific purposes." The issues of timely communication and rapid response were strongly emphasized as were education of the park staff and the public and preplanned debris removal around cultural sites. The latter, always expensive, is a frequent debate in parks like Yosemite and Sequoia where some scientists decry the removal of potential nutrients from burned material that would enrich the soil after a fire.[1203]

Reclamation of Prisoners Harbor Wetland

The nearest coastal access to the Central Valley and the Main Ranch on Santa Cruz Island is a large protected cove known as Prisoners Harbor. The area serves as the drainage for the Cañada del Puerto, the outlet from the Main Ranch and the Central Valley. Prisoners Harbor received its name as the result of an incident that occurred in April 1830, when a ship carrying prisoners from Mexico attempted to land them at the presidios of San Diego and Santa Barbara, but were

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1200 CINP, "Planning for Community Wildland Urban Interface Fire Management Response," 2000, CINP Central Files, 1.A. 2. Folder "Wildland Fire Management '06-89."

1201 Robert Taylor personal communication to Lary Dilsaver, December 19, 2018; Patricia Neubacher to Superintendents Santa Monica Mountains National Recreation Area and Channel Islands National Park, October 12, 2001, CINP Central Files, Case Incidents 2B, Folder "Ford Point Fire 2001."

1202 NPS, "Review and Update of the 1995 Federal Wildland Fire Management Policy," 2001, 21-25, Provided by Jan Van Wagtendonk. Also in Lary Dilsaver, *America's National Park System: The Critical Documents*, 2nd edition (Lanham, MD: Rowman and Littlefield, 2016) 418-22.

1203 NPS, "Channel Islands National Park Wildlife Fire Management Plan," June 2006, CINP Library, 10-19.

turned away. Instead, the ship's captain dropped the prisoners off with provisions on Santa Cruz Island. They eventually made their way back to the mainland and integrated into the communities. Over the next three decades, Andres Castillero, Barron, Forbes & Company, and others competed through the courts to gain uncontested ownership of the island. John Gherini posits that it was Dr. James Barron Shaw as island manager from 1853 to 1869 who supervised the development of Santa Cruz Island as a sheep ranch including Prisoners Harbor. A US Coastal Survey map from 1856 shows a road, pens, and buildings along the channel called Cañada del Puerto.[1204]

When Justinian Caire took control of the island in 1880, he set to work improving the small ranch known as La Playa (the beach) at Prisoners Harbor as the entryway to his island enterprises. A well-built pier already existed by the time Caire began his development projects in the ensuing decade. To maintain this valuable asset, Caire's workers planted eucalyptus groves in the Cañada del Puerto for use as pilings when the need arose and he purchased a pile driver. The existing six-room adobe house at La Playa, constructed sometime between 1857 and 1873, was enlarged and remodeled into an elegant, 10-room residence. The entire area at the mouth of the Cañada del Puerto was landscaped with grasses and trees planted in rows. Workers straightened the creek by building stone retaining walls and filled the wetland with cobble and gravel using railcars from their island transport line. This diminished the natural lagoon that meandered through the area. Laborers planted more eucalyptus trees in a row along the foot of the bluff behind the warehouse and sheep pens, and added stone pines (*Pinus pinea*) near the foot of the pier.[1205]

Caire used Prisoners Harbor to ship his wine, wool, walnuts, and other products off the island, receive goods and materials for island use, and to welcome visitors. In 1887, he had constructed a brick-faced, stone double warehouse to store wool and wine awaiting shipment. He also constructed a narrow-gauge railway to haul goods between the pier and the warehouse. Incoming goods could be either unloaded into the warehouse or loaded onto wagons behind the house for the three-mile trip to the Main Ranch. Maintenance was always an issue. On December 4, 1903, a storm damaged the pier and washed away the derrick that was used to replace pilings. Caire purchased a new derrick and constructed a new pier 582-feet long, 24-feet wide at the shore, and 49-feet wide at the end. A year later, laborers planted 39 pine trees on the west side of the pier, followed in 1908 by 500 eucalyptus trees upstream from the harbor. In the 1950s, the Stantons constructed corrals on the former wetland for cattle.[1206]

During the late 1990s, the National Park Service studied disturbing reports on the hydrology and ecology of Santa Rosa Island, dealt with the flood at Scorpion Creek, and finally secured complete ownership of the Gherini property on East Santa Cruz Island. After receiving the donation of the 8,500-acre Isthmus from TNC, the National Park Service needed to investigate the physical and ecological status of the much-trafficked wetland at the mouth of the Cañada del Puerto. In May 2003, the National Park Service sent officials from the agency's Water Resources Division led by wetland scientist Kevin Noon to East Santa Cruz Island to delineate the wetland boundaries at Scorpion Creek, Smugglers Creek, and Prisoners Harbor, and to identify

1204 Dewey Livingston, "Island Legacies: A History of the Islands Within Channel Islands National Park," NPS Historic Resource Study, 2016, 406-07, 416.

1205 Ibid., 424, 439-46, 450-63; John Gherini. *Santa Cruz Island: A History of Conflict and Diversity* (Spokane, WA: The Arthur C. Clarke Company, 1997) 82-94.

1206 Santa Cruz Island Company Ledger, pp. 295-296, 337, Santa Cruz Island Foundation; Livingston, "Island Legacies," 450-63.

restoration opportunities. Noon found Smugglers only needed monitoring, Scorpion needed choices to be made on which resource improvement should be prioritized, and Prisoners needed extensive changes. He reported:

> *Historically, the Prisoners area was one of the largest back-barrier coastal wetlands on the Channel Islands. This rare habitat, comprised of a fresh water stream, coastal lagoon/wetland, and riparian woodland, provided respite from the long dry summers for a diverse array of species including the island fox and bald eagle. The wetland most likely served as a resting and feeding stop for migratory birds traveling the Pacific flyway, as well as nesting and foraging habitat for resident waterfowl. . .To facilitate the island ranching operations and protect their investments at the harbor, ranchers channelized the creek and filled in the adjacent wetland with gravels from the surrounding hills and creek bed. This effectively eliminated the ecological value of the coastal wetland system, its floodplain functions, and much of its biological diversity.*

He added that approximately 60% of the original wetland area had been filled or dredged and that the dredging had created a deep channel along the east bank stretching more than 1,500 feet from the beach to confine the creek. A 60-foot-wide berm extended approximately 300 feet along the northwest side of the stream channel. Noon stated that "huge monocultures of nonnatives have replaced the more diverse native communities and reduced the functional values of the wetland areas, especially for birds and other wildlife." He suggested that the eucalyptus trees, in particular, needed to be studied to determine how much water they drew that could benefit native plants and wondered whether cultural resource managers would oppose their removal.[1207]

After more study and testing by Noon, his colleagues, and park resource managers, the National Park Service held a meeting with various partners including Island Packers, TNC, the Santa Cruz Island Foundation, the Santa Barbara Museum of Natural History, Chumash representatives, the US Geological Survey, and scientists from several University of California campuses. The purpose was to get input for a restoration plan. The options ranged from complete removal of the corrals with an attempt to restore the original hydrology and ecology to various lesser actions that would approach that goal. The response to restoration was generally positive but predictably varied. Ecologists and natural resource people backed total restoration, others had caveats, and one opposed any action. Lotus Vermeer of TNC enthusiastically commended the project and promised to cooperate. Charles Drost (USGS) and Paul Collins (SBMNH) expressed concern about the fate of the western harvest mice that inhabited the existing wetland.

Chumash representatives Freddie Romero and Julie Tumamait-Stenslie approved the idea of restoring the pre-ranch environment but worried about archeological resources that might be disturbed or destroyed by the process. Anthropologist Jeanne Arnold of the University of California, Los Angeles, agreed with them. Earl Whetsell and Sarah Chaney of the park staff wondered about long-term maintenance of the restored wetland and what would happen if dredge spoils carried invasive plants to other parts of the island. Marla Daily and Tony Brown of the SCIF did not approve of the removal of the corrals, although Brown suggested keeping only

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1207 Dan Kimball to Superintendent, CINP, August 19, 2003 with attachment: Kevin Noon, "Report for Travel to Channel Islands National Park during May 11-16, 2003," CINP digital files, pp. 5-6, 9-11.

a small portion on-site. Daily insisted that a new GMP be completed before this project could go forward. Island Packers representative Alex Brodie made the case for future visitors by wondering whether the restricted area left after restoration would be large enough for them to disembark and recommended a strong focus on educational interpretation at the site. Everyone in the group agreed with the latter idea. Finally, Lyndal Laughrin of the UC Research Station cautioned that the National Park Service needed to balance preservation of historical resources with restoration of the ecosystem. However, he added that people today do not need to perpetuate the resource damage instigated by previous landowners and land managers. He noted that if the Caires and Stantons had been required to follow modern environmental protection laws, the structures at Prisoners Harbor would never have been built.[1208]

The Park Service announced its intention to restore the wetland in the *Federal Register* on June 11, 2008. The notice mentioned the public outreach described above and explained that the corrals at the site were added by Carey Stanton in the 1950s and that they were a "small scale feature" that contributed to the Santa Cruz Island Ranching District, a property that was potentially eligible for the National Register of Historic Places. The project would affect 59.7 acres of land, only 19.0 of which were owned by the Park Service. The rest were TNC property, but the legal agreement between the two organizations allowed them to cooperate in such a project. The National Park Service promised to consult with the State Historic Preservation Officer (SHPO) in carrying out the proposed restoration.

The park released its draft Environmental Impact Statement entitled "Prisoners Harbor Coastal Wetland Restoration Project" in May of the following year. Park officials then held an open house on June 23, 2009, and presented their "action" alternatives with a 45-day public scoping period. The EIS addressed four main components: (1) removing fill and controlling invasive species to restore the ecology, (2) restoring hydraulic function of the wetland by reconnecting the creek to the floodplain, (3) protecting sensitive archeological resources, and (4) improving the visitor experience. The NPS preferred alternative was "B" which proposed: (1) removal of about 17,000 cubic yards of fill and eight cattle corrals, (2) relocation of a scale house, (3) removal of eucalyptus trees from 20 acres in the lower Cañada del Puerto, (4) control of invasive fennel and kikuyu grass (*Pennisetum clandestinum*), (5) removal of 250 feet of the berm to reconnect the creek with its floodplain, (6) construction of a protective barrier around a portion of the sensitive archeological site, and (7) improvements to the visitor experience. The Draft EIS also offered a No-Action Alternative and an Alternative C that would restore one-third of the wetland by removing 11,000 cubic yards of fill, retaining two corrals, and retaining the scale house in its current location. The park sought reviews and written public comment on the Draft EIS by July 15, 2009.[1209]

The response from agencies, organizations, and the public was muted. After notifying 73 media outlets, and sending out 240 copies for review, the park only received 11 responses that offered anything more than a yes or no about the project. Considerable correspondence between Superintendent Russell Galipeau, archeologist Susan K. Stratton who represented California

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1208 CINP, "Notes from meeting between NPS and partners regarding potential wetlands restoration at Prisoners Harbor, Santa Cruz Island, Channel Islands National Park, 5 April 2007," CINP digital files; NPS, "Cultural Landscape Inventory, Santa Cruz Island Ranching District. Channel Islands National Park," 2004, 17.

1209 *Federal Register*, 73 (113), June 11, 2008, 33109-11; CINP, "Prisoners Harbor Coastal Wetland Restoration Plan Final Environmental Impact Statement, Channel Islands National Park, Santa Cruz Island, Santa Barbara County," NPS, February 2010, pp. i-ix.

SHPO Milford Wayne Donaldson, and the Santa Ynez Band of Mission Indians elicited adjustments to the plan to carefully cap the site of the former Chumash village. The Environmental Protection Agency expressed minor concern about the impact of runoff on the marine resources nearby. The USFWS approved after being assured that no endangered species such as the island fox would be threatened, and other state and federal agencies gave tentative approval with stipulations that various permits from them would be negotiated. In the meantime, project leader Paula Power led a team to quantify and measure the eucalyptus trees at the wetland and along the Cañada. They found more than 1,700 with diameters at breast height greater than 6 inches including 304 with a girth greater than 24 inches.[1210]

Mike Martin of the WRD staff made a hydrological study of the creek and found that channelizing the creek increased water velocity during flood stages and impacted the major archeological site. Removing the berm would remove the threat. Park staff dismantled the corral system and removed old concrete piles and other debris from the filled area. They used lumber from the old corrals to build a small new one next to the historic warehouse. This new corral reestablished the scale house at its original site and incorporated the squeeze chute, loading chute, and water troughs to offer interpretation of the former ranching operation. Fennel, extensive mats of kikuyu grass, and 30 eucalyptus trees were removed prior to earthmoving activities. In September and October, the park staff removed 10,000 cubic yards of fill and deposited them on the east side of the creek. The material was graded to blend in with the existing topography. Discovery of the remnant of a historic stone wall under the berm during removal of the fill forced the park to reduce the amount of material it removed in order to protect it.

In a massive effort during November and December 2011, volunteers helped them plant 15,000 native wetland species of high wildlife value in their appropriate depth-to-water level. Sixty pounds of native seed and acorns were planted in the fill disposal site. No plants were brought from other islands or the mainland because of a concern about transporting invasive organisms. They also created two open-water ponds, reconnected the creek with its floodplain, and exposed groundwater that had been buried for over 100 years. The biological response was immediate. Endangered island fox, island scrub-jay, invertebrate fauna, waterfowl, along with many new resident and migratory birds, appeared. Park officials installed a complex system of soil and atmosphere water instruments to monitor the ecosystem. A serious drought over the next few years inhibited growth and propagation of many of the new plants, but the federal standard for a wetland was met. Park officials reported, "With the installation of interpretive corrals, two trails, a viewing deck, and three interpretive signs, visitors now have many opportunities to view wildlife and experience the rich history at Prisoners Harbor."[1211]

1210 CINP, "Prisoners Harbor Coastal Wetland; Paula J. Power, Joel Wagner, Mike Martin and Marie Denn, "Restoration of a Coastal Wetland at Prisoners Harbor, Santa Cruz Island, Channel Islands National Park, California," Monographs of the *Western North American Naturalist*, 7 (1), 2014, 442-454. https://doi.org/10.3398/042.007.0134. Accessed April 7, 2019.

1211 Paula Power et al., 2014; CINP, "A Call to Action: Prisoners Harbor Coastal Wetland Restoration," Briefing Statement, n.d. http://www.nature.nps.gov/water/crystalclear/assets/docs/CHIS_Crystal_Clear_Brief.pdf; Paula Power interviewed by Lary Dilsaver, November 2, 2018.

Figure 10-3. This oblique aerial photo shows Prisoners Harbor as designed by the Stantons during the 1950s. Corrals and extensive vegetation including nonnative species covered the former wetland.

Source: August 2010, photographer unknown. NPgallery.nps.gov.

Figure 10-4. Prisoners Harbor after reconfiguration and restoration of the wetland.

Source: 2013, photographer unknown. NPgallery.nps.gov.

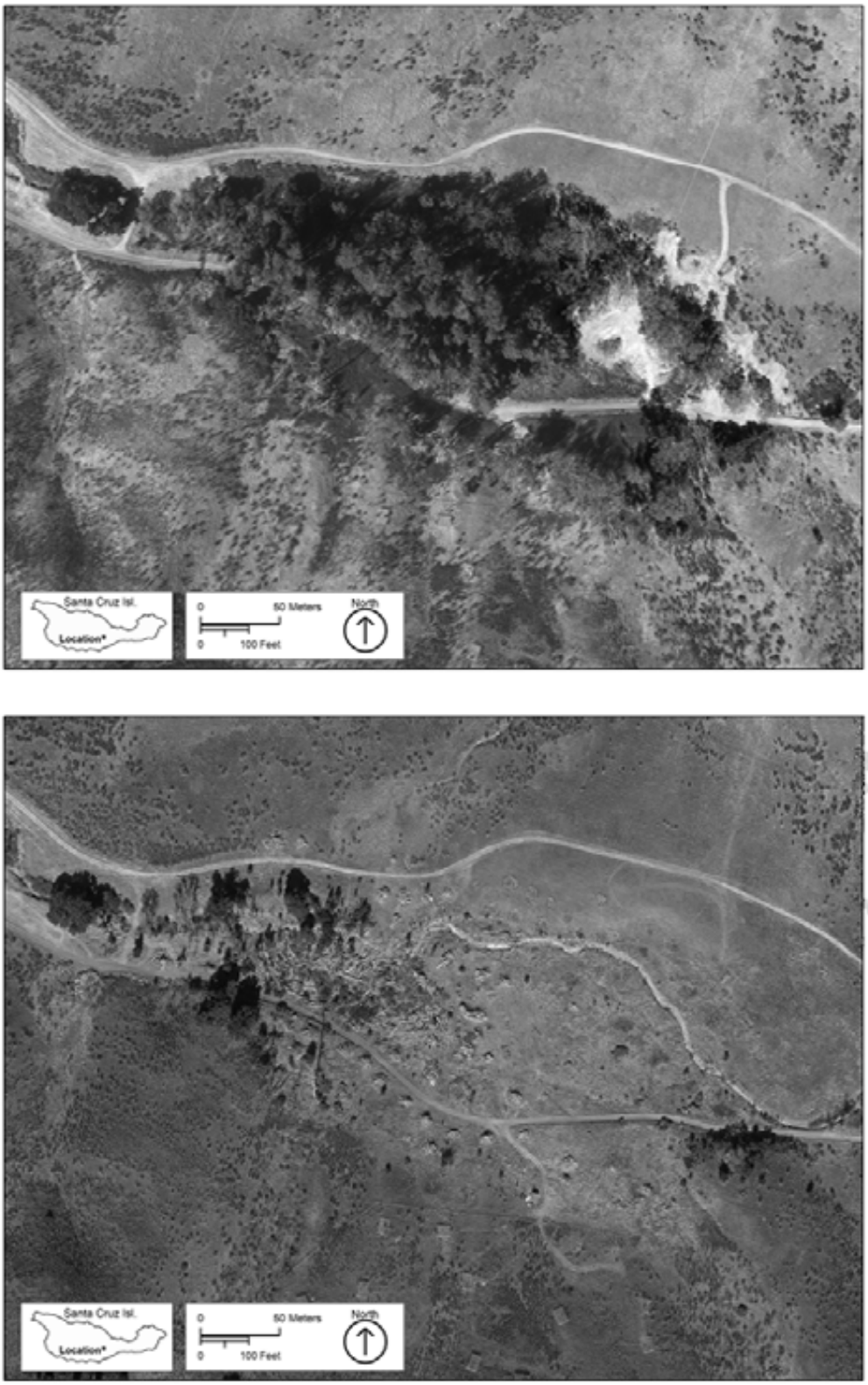

Figure 10-5a and 10-5b. These air photos show the effect of ongoing eucalyptus removal in Cañada del Puerto on Santa Cruz Island since the National Park Service gained control of the area in 2000.

Source: Images provided by Rockne Rudolph, Channel Islands National Park.

MANAGING NATURAL RESOURCES IN THE SEA

Creation of the 13 marine protected areas (MPAs) and the addition of more inventory and monitoring sites around the park islands brought a steep rise in data and a new understanding of marine ecology after 2003. Using money from the State of California and the National Park Service, biologists at Channel Islands added 17 new monitoring sites to the existing 16 in 2005 (see map 6-2). NPS marine biologists are assisted by and sometimes contract research out to Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), the marine studies program for four universities in California and Oregon. The agency's monitoring program tracks 120 species plus water conditions including temperature, salinity, and acidification. Of critical significance, many of the new sites allow biologists to compare similar habitats inside and outside the marine reserves. In addition, they allow monitoring in a marine environment under increasingly complex interactions of four major factors—environmental change, disease, fishing pressure, and invasive exotic species. The interplay of these factors has created highly variable conditions over both time and space (see plate 8).

Temperature is the most significant environmental factor. The distance from Santa Barbara Island in the warm southern area to San Miguel Island in the much cooler northern area of the park is only 50 miles. Yet, its contrast allows species from a transect of the mainland coast hundreds of miles in extent to exist in relative proximity. The temperature gradient changes seasonally as well as through ocean events that fluctuate over time such as the El Niño-La Niña cycle. The inventory and monitoring program around the park's islands has tracked the dramatic variance in marine resource conditions that results from the cycle. During the decades from 1980 through 2000, it became more pronounced and included unusually strong El Niños in 1982–84 and 1997–98. These brought warmer waters with concomitant declines in kelp, spiny lobsters, and sea stars. Around Santa Barbara Island the kelp forest essentially vanished. Another milder El Niño in 2015–16 reinforced the pattern. But by that time another factor had altered the equation.[1212]

Monitoring showed that after 2000 the cycle diminished and measurements showed less annual variance but a gradual increase in water temperature. A marine heat wave was detected in the Gulf of Alaska in 2013 that soon expanded east and south reaching the coast in late 2014. It became the largest and most widespread marine heat wave ever documented in the northeast Pacific Ocean. Climatologists branded it the "North Pacific Blob." It reached the coast of Oregon and eventually mixed with warm water in the Southern California Countercurrent that appeared shortly thereafter. In the Santa Barbara Channel region, it generated what is now called a "Warm Water Event" that coincided with the 2015–16 El Niño and placed considerable stress on the recovery of kelp forest habitats. Water temperatures warmed as much as 8°F (5°C) and caused major spatial shifts in food webs. Locally, productivity of nutrients was low due to a reduction of coastal winds and the upwelling that brought them into the upper layers of the sea. The warm water event was linked in 2015 to a harmful algal bloom (*Pseudonitzschia*) along the West Coast, that was unprecedented in size, duration, and toxicity. Seabird and marine mammal die-offs were documented during the warm water event due to shifts in the availability of prey and toxicity of the algal bloom. Northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), and market squid (*Doryteuthis opalescens*) are key prey for many predatory fishes, seabirds, and marine mammals in the pelagic food web around the Channel Islands.

1212 David Kushner interviewed by Lary Dilsaver, August 16, 2018; Gary Davis interviewed by Lary Dilsaver, September 2, 2018.

Reduction in the abundance and quality of these prey species available to breeding female sea lions at Channel Islands rookeries led to increased stranding of California sea lion pups starting in 2013. When the El Niño retreated, the kelp ecosystem began to rebound. Even Santa Barbara Island, the domain of sea urchins (*Strongylocentrotus purpuratus* et al.) for nearly four decades, saw some new kelp and spiny lobster albeit at low densities and a patchy distribution. Marine biologists speculate on whether climate change in the northern Pacific Ocean may intensify and produce more warm water events in the future.[1213]

One resource that does not appear to suffer from an El Niño or a warm water event is Pacific eelgrass (*Zostera pacifica*). It too serves as a foraging, nursery, and biogenic habitat in subtidal and intertidal soft bottom regions. It is found off Santa Rosa, Santa Cruz, and Anacapa Islands. Data show that most eelgrass beds have been generally stable over time. While there is no evidence of a negative effect on eelgrass in most areas of the sanctuary, the beds in Frenchy's Cove continue to be disturbed from anchoring and lobster trap placements. Surveys of a 2003 experimental eelgrass transplant at Anacapa Island showed peak coverage in 2009 followed by a decline in areas open to fishing.[1214]

Disease affects the evolving environment around the park islands causing deaths that lower the population survival rates of various marine species. Sea urchins, the prime consumers of kelp, have been deeply affected by two strains—a "wasting disease" and a "black spot disease." Serious outbreaks have prevented sea urchins from colonizing an even larger proportion of kelp habitat. In areas with a low density of sea urchins, they lodge in cracks and crevasses in the sea floor and subsist on kelp fronds floating past. But when their population increases, they move from these limited sites, colonize the wider sea floor, and consume the "holdfasts" that anchor entire kelp plants to the bottom. The absence of most urchin predators in the 79% of the park waters outside the marine reserves means there are few checks on sea urchins other than the commercial fishery that takes them. Spiny lobsters (*Panulirus interruptus*), California sheephead (*Semicossyphus pulcher*), sunflower sea stars (*Pycnopodia helianthoides*), and sea otters (*Enhydra lutris nereis*) prey upon them, but all are subject to human harvest or, in the case of the latter, extirpation. A booming market in Japan for red sea urchins (*Strongylocentrotus franciscanus*) offers a good substitute for the kelp industry's payments to divers who used to eradicate them. However, the diseases mean that most of the urchins lose the edible portions which has caused annual commercial harvests to shrink from a high point of $25,000,000 to $5,000,000 over the last few years. Purple sea urchins (*Strongylocentrotus purpuratus*) apparently are less susceptible to the diseases, but are small and undesirable to fishermen and they are the culprits in most "urchin barrens."[1215]

Sunflower sea stars eat sea urchins but the "warm water event" heavily impacted them. In water warmer than 65°F (18.3°C) they essentially dissolve in what is called a "sea star wasting syndrome." They inhabit a deep column of water so after an El Niño event the survivors from the colder submarine layer below 60.0 feet (18.3 meters) can quickly recruit the upper levels again. However, the warm water event has heavily impacted 20 species of sea stars, including the sunflower sea star, at all depths. Marine biologists expected a major boom in sea urchin numbers, but at Johnsons Lee, where they carefully monitored the situation, it did not happen

1213 David Kushner interview, August 16, 2018; CINMS, "Condition Report 2016," 94-96.

1214 CINMS, "Condition Report 2016," 101.

1215 David Kushner interview, 2018.

after the 2015–16 event. The relationship is one that scientists are trying to understand but they hypothesize that the sea urchin diseases prevented a rebound of their numbers.[1216]

In August 2018, Channel Islands National Marine Sanctuary released the first volume of a new status report for the unit including the waters of the national park.[1217] Most of the 2016 data on the living resources in the area came from the monitoring program in the park and from PISCO. An earlier survey issued in 2009 offered the opportunity for comparison over nearly a decade of change. The assessments were based on studies of faunal communities in the six primary habitats in the sanctuary: rocky intertidal, shallow subtidal rocky reef and kelp forest, beaches, shallow sandy seafloor, deep seafloor, and pelagic waters. The greatest amount of data came from the rocky intertidal, shallow rocky reef and kelp forest, and pelagic habitats reflecting the input from the National Park Service. The carefully written summary states, "Although the 2016 status and trends are quite variable across the range of species in the sanctuary; overall, the data indicate that many of the sanctuary's living resources are showing relative stability or improvement since 2009."[1218]

The status of commercially important species like black abalone (*H. cracherodii*), giant sea bass (*Stereolepis gigas*), and sea cucumber (*Parastichopus sp.*) remain depressed compared to historic levels. White abalone (*Haliotis sorenseni*) shows no signs of recovery and most experts believe that it never will. David Kushner of the park staff disputes the common notion that white abalone were wiped out over a short period of time. He believes that they were taken previously but mis-identified as pink abalone. He agrees that the species is probably doomed locally. Gary Davis, now retired from the park, has stated that an abalone species that declines to below 50% of its population is threatened and below 20% is usually unrecoverable. Six other species of abalone inhabit the park—black, red (*H. rufescens*), green (*H. fulgens*), pink (*H. corrugata*), flat *(H. walallenssis*), and threaded (*H. assimilis*) abalone and all numbers are extremely low except for black abalone at San Miguel Island. Threaded abalone, now sometimes called "pinto abalone," disappeared at the same time as most of the others but was never harvested. However, it was at the extreme southern end of its range and its disappearance may have been due to other factors.[1219]

The California sea cucumber (*Parastichopus californicus*) and the warty sea cucumber (*P. parvimensis*) are recreationally and commercially harvested in Southern California. Surveys by the park from 1982 to 1999 found that average density peaked in 1990 at two sea cucumbers per square meter (3.3 feet) then gradually declined to an average density of 0.4 by 1999. Since 2005, warty sea cucumber density has been stable at San Miguel and Santa Rosa Islands, but has decreased at Santa Barbara, Santa Cruz, and Anacapa Islands. Most of the improved density of warty sea cucumbers occurred in the marine reserves. Giant sea bass, an apex predatory fish, has been listed by the International Union for the Conservation of Nature as a critically endangered species. It too survives primarily in the MPAs.[1220]

1216 Ibid; Multi-agency Rocky Intertidal Network, "Sea Star Wasting Syndrome," November 5, 2018, https://www.eeb.ucsc.edu/pacificrockyintertidal/data-products/sea-star-wasting/ Accessed November 7, 2018.

1217 CINMS, "Condition Report 2016."

1218 Ibid., 8.

1219 Ibid., 115-16; David Kushner interview, 2018; Gary Davis interview, 2018.

1220 CINMS, "Condition Report 2016," 117.

California spiny lobster and California sheephead that prey on sea urchins are far below historic levels due to harvest. However, lobsters have increased in numbers at Anacapa, Santa Cruz, and Santa Barbara Islands since 2015. Sheephead have also increased since the 2009 assessment at some islands. Both Davis and Kushner attribute this to the establishment of the marine reserves and conservation areas. The 2018 Sanctuary report notes that:

> *Average biomass of species targeted by fishing, such as rockfish, kelp bass, and lobster, has increased both inside and outside of MPAs since their implementation, but the rate of increase is much greater inside MPAs where fishing is not allowed. Increased biomass inside marine reserves, known as the "reserve effect," results from larger-sized individuals such as kelp bass and sheephead as well as higher densities inside the protected areas. The reserve effect is even more consistent for species subject to high fishing pressure including California spiny lobster, sea cucumber, and sheephead.*[1221]

Interestingly, San Miguel Island is the coldest and the most distant from ports. Hence, it receives the fewest visits by fishing boats. It also showed the least variation in the biomass of popular species between no-fishing reserves and areas open to harvest. This supports the idea that fishing pressure is the major factor in recovery of those species that help the recovery of the kelp habitat.

David Kushner, Gary Davis, and other marine biologists are confident that the MPAs are working. As early as 2013, PISCO reported:

> *The Channel Islands MPAs appear to be fulfilling their role as refuges for many fish and invertebrate species. Heavily targeted species are bigger and more abundant inside these protected areas than in fished areas, and the increases are more pronounced and rapid inside MPAs compared to areas nearby. More sea life within marine reserves and other protected areas will likely result in benefits to areas outside, contributing to overall ocean health. Healthy marine ecosystems can better withstand the pressures of climate change and other stressors such as overfishing and poor water quality.*[1222]

Kushner added that 10 years of monitoring at Anacapa Island's reserves saw some recovery of sea cucumbers, kelp bass, and spiny lobsters. At Black Sea Bass Reef, a blanket of brittle stars (*Ophiuroide* sp) is rapidly disappearing due to the return of the lobsters.

At Santa Cruz Island, after devastation by an El Niño episode most of the kelp forest was destroyed. A subsequent check of six monitoring sites checked showed kelp recovery in the three MPA sites and urchin barrens in the three sites outside them. An identical pattern of kelp or urchin domination occurred at six sites at Santa Rosa Island. In an August 2018 interview, Kushner stated that divers can easily tell when they are not in a marine reserve:

1221 Ibid., 121-22.

1222 PISCO, "A Decade of Protection, 10 Years of Change at the Channel Islands," 2013, file:///D:/Documents/Writing%20CHIS/Channel%20Islands%2010-Yr%20MPAs%20Brochure.pdf.

> *There's no fish. There's no lobster or not many. It's a bleak environment outside an MPA and inside the MPA there's a lush kelp forest full of fish and full of lobster. It's that obvious.*[1223]

In its 2009 condition report, the Marine Sanctuary found no problematic nonnative species, but warned that invasive algae from mainland harbors and Santa Catalina Island could reach the Northern Channel Islands. According to the 2016 report, one of those species of concern, *Sargassum horneri*, is now present and expanding its range at three of the islands in the park. It is a fast-growing brown type of kelp from eastern Asia that can cause severe degradation to native kelp forest communities. It first appeared in Long Beach Harbor in 2003 and spread to Anacapa Island by 2009. By October 2016, it was established at multiple sites at Anacapa, Santa Barbara, and Santa Cruz Islands. In addition, drift was observed at San Miguel and Santa Rosa Islands, but monitoring had not detected established populations at these islands. In 2016, density increased substantially at Anacapa, Santa Barbara, and Eastern Santa Cruz Islands, possibly due to the warm water event. Researchers also have found it in the rocky intertidal zone at Anacapa and Santa Barbara Islands. Marine biologists fear it may dominate available space and block light as it does in *Sargassum* thickets at Santa Catalina and San Clemente islands.[1224]

The Japanese brown algae (*Undaria pinnatifida*) is another exotic species of concern because it very quickly colonizes a new area and reaches high densities in intertidal and subtidal habitats. Although it has commercial value as the principal ingredient in miso soup, *U. pinnatifida* is listed as one of the world's 100 worst invasive alien species by the International Union for the Conservation of Nature. It was first found growing in Los Angeles Harbor in 2000, and has now spread throughout Southern California harbors and as far north as San Francisco Bay. During surveys in June and July 2016, divers found many *Undaria* plants, ranging from juveniles to reproductive adults, at depths ranging from 30 to 50 feet (9.1 to 15.2 meters) at Keyhole, a monitoring site on the northern side of West Anacapa Island. It grows on all types of substrate, including rocky reef, bedrock, cobble, and sand. Marine biologists have urged that additional monitoring and ecological studies of this very new and aggressive invasive are needed.[1225]

A third exotic species of eventual concern is *Watersipora* spp., a Japanese bryozoan that colonizes both natural and human-made hard substrates. Bryozoans are a phylum of aquatic invertebrate animals that function as a colony. Individuals in these colonies are called zooids because they are not fully independent animals. Different component zooids are responsible for eating, hatching eggs, and defense. The latter also enable the colony to move. *Watersipora subtorquata*, commonly known as the red-rust bryozoan, is a species of colonial bryozoan in the family *Watersiporidae*. It is unclear from where it originated but it has become invasive on the west coast of North America. It can reduce a kelp forest enough to impact fish and invertebrate species and is also a source of food for sea urchins. In 2011, *Watersipora* was observed for the first time in the sanctuary during kelp forest surveys by park divers. In 2017, researchers found it at two sites in the park, Cathedral Cove on Anacapa Island and Fry's Harbor on Santa Cruz Island. At that time, it existed in two distinct patches at Santa Cruz Island as well as on pier pilings. It had not yet seriously affected park ecosystems but studies were underway to

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1223 David Kushner interview, 2018.

1224 CINMS, "Condition Report 2016," 121-22.

1225 Ibid., 123; CINP, "Invasive Kelp Spreads into New Territory," https://www.nps.gov/articles/invasive-kelp-spreads-into-new-territory.htm Accessed June 21, 2018.

determine whether it can readily spread from oil platforms in the Santa Barbara Channel where it is more abundant.[1226]

Research and discovery about the interplay of the four factors—environmental conditions, disease, fishing harvests, and nonnative species combined with unknowns like climate change have demonstrated the worth of the marine monitoring program. The apparent recovery of native species, albeit slow, in the MPAs and their "spill-over effects" outside their boundaries justified their establishment in 2003 and enlargement thereafter. Whether the success of the reserves should encourage further enlargement to a greater than 21% coverage remains highly controversial. As complex as resource management on the islands has proven to be, it is in the sea where the native habitats may undergo the greatest alteration.

CULTURAL RESOURCE MANAGEMENT

On June 11, 1998, the National Park Service released Director's Order 28: *Cultural Resource Management* to define and update the agency's responsibilities regarding research, planning, and stewardship of human materials and traditions in each park unit. Cultural resource managers must identify, evaluate, and manage five types of resources: (1) archeological resources, (2) historic and precontact structures, (3) cultural landscapes, (4) museum objects, and (5) ethnographic resources.

Archeologist Don Morris had served as the park's sole permanent cultural resource staff person since his hiring in 1985. Morris was well-versed in precontact and historical archeology and enlisted university professors and students, museum staff and volunteers to assist in conducting archeological surveys, shipwreck documentation, and other archeological and paleontological research within the park. By the 1990s, Morris had been able to identify and document numerous archeological sites on the islands and several shipwrecks. Professionals in the NPS regional office, temporary park employees, contractors, and university cooperators assisted the park in managing its museum collections, documenting the historic resources on the islands, and carrying out compliance with the National Historic Preservation Act. The park had listed the Santa Barbara Island, Anacapa Island, and San Miguel Island archeological districts in the National Register of Historic Places, as well as the Anacapa Island Light Station and the *Winfield Scott* shipwreck.

With the acquisition of Santa Rosa and East Santa Cruz Islands, the park became responsible for thousands of archeological sites, numerous historic structures including adobe ranch houses, dry-laid stone retaining walls, wood outbuildings, concrete water tanks, and stone-lined wells on Santa Cruz Island, and wood ranch houses, barns, and outbuildings on Santa Rosa Island. Historic ranch landscapes on both islands comprised miles of fencelines, roads, plantings of Monterey cypress (*Cupressus macrocarpa*), eucalyptus, stone pine, other trees, and other cultural features. Although some surveys had been carried out on Santa Rosa Island, most of the acreage on the two largest islands still needed to be surveyed for archeological resources.

In 1998, the park received an increase in base funding to manage the newly acquired park lands and to help restore the native ecosystems in the park. With the addition of the ranch properties

1226 CINMS, "Condition Report 2016," 123.

on Santa Cruz and Santa Rosa Islands, Superintendent Tim Setnicka saw a need for additional cultural resources expertise in the park and used part of the increase to create a new position for a chief of cultural resources management.[1227] In July 1998, he hired historian Ann Huston from the NPS Western Regional Office to fill the new position. She arrived at the park as the last cattle roundup was taking place on Santa Rosa Island and shortly after the Park Service had acquired the final quarter interest in East Santa Cruz Island. Morris and Huston requested funding and assistance to continue archeological surveys, undertake historical and architectural studies to establish baseline data about the resources on the two largest islands, repair and stabilize historic structures, and improve the park's curatorial program.

Compiling the Park's History

The two primary historical documents required for each national park system unit are a historic resource study, describing the history of the park area and the historic resources it comprises, and the park's administrative history, describing the park's establishment, land acquisition, development, and management over time. Huston immediately had to address the park's historic resource study upon her arrival at the park by preparing contract documents in to obligate funds that the park had received that fiscal year. Historian D. S. (Dewey) Livingston was contracted to research and write the history of the park's five islands, incorporating and updating Lois Weinman Roberts's 1979 history of Anacapa, Santa Barbara and San Miguel Islands into the new work. A monumental task, Livingston produced a 1,000-page final draft report in 2006.[1228] The draft report was updated, printed, and disseminated in 2016.[1229] The historic resource study, entitled *Island Legacies*: *A History of the Islands within Channel Islands National Park*, is invaluable for its in-depth background on all aspects of the island's historic occupation and uses. His study, and the numerous copies of documents and photographs he compiled through his research, is used by most of the park staff, for interpretive training and publications, documentation for historic preservation compliance, planning purposes, as background for historic structure and historic landscape reports, and for many other purposes.

The other major historical study was initiated in 2009 by NPS historian Timothy Babalis to document the administrative history of Channel Islands National Monument and National Park. Babalis compiled research notes, interviewed current and former park employees, and completed a partial draft report in 2014.[1230] By the time the park received additional project funding to complete the study Babalis was no longer available. In 2017, after several unsuccessful years searching for someone to complete the report, the new Chief of Cultural Resources Laura Kirn contracted historical geographer Dr. Lary Dilsaver to continue the research and interviews necessary to revise and complete this document.

1227 Tim Setnicka, interviewed by Ann Huston, June 2019.

1228 D. S. Livingston, "Ranches in the Sea," draft historic resource study of Channel Islands National Park, National Park Service, 2006.

1229 D. S. Livingston, Island Legacies: A History of the Islands within Channel Islands National Park. National Park Service, Department of the Interior, 2016.

1230 Timothy Babalis, "The Oceanic Park: An Administrative History of Channel Islands National Park," draft manuscript, August 2014.

Archeology and Anthropology

In 1977, only one academic institution, the University of California, Santa Barbara, carried out archeological research on the Channel Islands. A 2010 review of archeology in the park edited by Michael Glassow noted that the University of California, Los Angeles; the University of Oregon; Pomona College; and Southern Methodist University all had ongoing programs on one or more of the islands. In addition, the Santa Barbara Museum of Natural History had reinstituted its long-term research program on the islands, which had terminated when Philip C. Orr retired in the 1960s. The Smithsonian Institution also sent an archeologist to the islands after a hiatus of more than a century. As a result, substantially more was known about the park's archeological resources and its prehistory. The overwhelming majority of these investigations had focused on precontact archeological resources. Historic archeological resources had received much less attention. Glassow and the authors noted, "the full value of historic archeological resources cannot be known until many more of the individual sites and features are identified, recorded, and evaluated."[1231]

As archeological survey and research on the islands expanded, it became increasingly apparent that the archeological resources of the Channel Islands were among the most significant in North America. The abundance, high degree of preservation, and distribution of sites from the late Pleistocene and throughout the Holocene period, made the park's archeological record ideal for studying processes of cultural change and adaptation. [1232] The park hosted research investigations by university professors and their students through cooperative agreements and small grants, gleaning important data with little financial outlay. Don Morris and a team carried out a coastal survey of Santa Rosa Island in the early 1990s. This was followed by additional surveys of Jolla Vieja Canyon, Cañada Verde, and Arlington Canyon by Doug Kennett and others during the latter half of the 1990s.[1233]

Following the park's acquisition of East Santa Cruz Island, it received project funding in 2000–2001 for an archeological survey of the new park property. Don Morris established cooperative agreements with the University of California, Santa Barbara, and California State University, Long Beach (CSULB) to carry out the work. Students Jennifer Perry (UCSB) and Robert Clifford (CSULB) under the direction of professors Dr. Michael Glassow and Dr. Doug Kennett, respectively, undertook the surveys. The two researchers documented 69 new sites and undertook several test excavations.[1234] Their survey data provided important information about precontact occupation of the eastern portion of the island, as well as assisting the park in planning for development on the island without disturbing archeological resources.

UCSB has had a long history of archeological research on Santa Cruz Island since the establishment of the University of California field station on the Stanton property in 1966. This evolved into a mutually beneficial relationship between Channel Islands National Park and the UCSB archeology program. Michael Glassow began archeological studies on Santa Cruz Island as a UCSB graduate student, joined the faculty in 1969, and continued his field research on the

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1231 Michael Glassow, ed., Channel Islands National Park Archaeological Overview and Assessment, NPS, 2010, 1.6, 1.8. Authors for this study included Todd J. Braje, Julia G. Costello, Jon M. Erlandson, Michael A. Glassow, John R. Johnson, Don P. Morris, Jennifer E. Perry, and Torben C. Rick.

1232 Ibid., 7.

1233 Ibid., 181-192.

1234 Ibid., 137-144.

island. Under his direction, several students conducted their doctoral dissertation research on Santa Cruz Island and went on to teach or conduct research at other institutions. Jennifer Perry taught at Pomona College and then at California State University, Channel Islands (CSUCI). Jon Erlandson earned his PhD under Glassow and went on to teach and direct the Museum of Natural and Cultural History at the University of Oregon. Lynn Gamble conducted her PhD fieldwork at UCSB on a mainland Chumash site, taught at San Diego State University, and returned to UCSB to take Glassow's position on his retirement, continuing her archeological research on Santa Cruz Island. Doug Kennett, who studied under Michael Jochim at UCSB, did his PhD dissertation on the archeology of the Northern Channel Islands, began teaching at CSULB, moved on to Pennsylvania State University, and then back to UCSB on Lynn Gamble's retirement.

All of these UCSB graduates, on gaining positions in other universities, continued their research on the park islands, training students of their own in island archeology. Torben Rick earned an undergraduate degree at UCSB and an MA and PhD under Jon Erlandson at the University of Oregon. He conducted his PhD field research on Santa Rosa Island, began teaching at Southern Methodist University and then moved to the Smithsonian Museum of Natural History. Todd Braje, another Jon Erlandson student, undertook his doctoral field research on San Miguel Island, taught at Humboldt State University and then San Diego State University. Christopher Jazwa studied under Jennifer Perry at Pomona College, later gained his PhD under Doug Kennett at Pennsylvania State University, and now teaches at the University of Nevada, Reno. The current park archeologist Kristin M. Hoppa conducted her dissertation research on Santa Cruz Island and received her PhD at UCSB under Glassow, making her the first full-time archeologist on the park staff with specific expertise in island archeological resources. Other students of Michael Glassow that have worked at the park include Amy Gusick, Georganna Hawley, Sam Spaulding, and Terry Joslin.[1235] Channel Islands National Park owes an enormous debt to Michael Glassow and his island archeological research program. The park has profited immensely from Glassow's fieldwork and that of the many students who trained under his instruction and who have continued his legacy of island archeological research.

Don Morris retired in 2001, and after a series of temporary appointments to fill the position, the park hired Kelly Minas, from Vandenberg Air Force Base, as the park archeologist. Due to budget constraints at the time, Minas was hired into a career seasonal position. He accomplished several archeological research projects using NPS project funding, grant funds from the Western National Parks Association, and occasional funds provided by the US Navy for work on San Miguel Island. Cooperative agreements with UCSB, the University of Oregon, and CSUCI allowed Glassow, Erlandson, Rick, Perry, Braje, and their students to conduct surveys and sampling to document sites that were subject to erosion on Anacapa, Santa Rosa, and San Miguel Islands.

Between 2000 and 2008, John Johnson, Curator of Anthropology at the SBMNH, undertook excavations at Arlington Springs to assess the geological, biological, and archeological context of the 13,000-year-old human remains recovered at the site by Philip Orr in 1959. Although the location along the cliff face from which the remains were recovered is no longer extant, Johnson and his team exposed the geological strata along the canyon wall and collected samples for chronostratigraphic research. They also undertook ground penetrating radar

1235 Michael Glassow personal communication to Ann Huston, July 8, 2019.

surveys, laser transit mapping of the canyon, and collected sediment core samples.[1236] Johnson presented the team's findings in several publications and presentations and continues his analysis of the materials.

To comply with its responsibilities to evaluate and nominate properties to the National Register of Historic Places, the park provided funds to UCSB through a cooperative agreement for Michael Glassow to complete an update and expansion to the national register documentation of the Santa Cruz Island Archeological District in 2013. The new documentation expanded the district to include the NPS property, thus encompassing the entire island within the boundary of the archeological district.[1237] The inventory and description of the resources was much more comprehensive, due to the survey and investigations that had been undertaken since the original 1980 listing of the district, and its level of significance was extended to the national level.

Kelly Minas and Michael Glassow, along with archeologist volunteers, travelled to Santa Barbara Island for several summers to re-survey the island between 2012 and 2016. They relocated 19 previously recorded sites and documented an additional 48 sites. Their investigations documented island visitation and use over the past 4,000 years, with peaks in occupation between 3,000 and 4,000 years ago and between 500 and 1,400 years ago.[1238] This work will allow the park to update and revise the national register documentation for the Santa Barbara Island Archeological District.

Minas retired in 2016 and in 2018 the park hired Dr. Kristin Hoppa. The cultural resources division is engaged in several ongoing and upcoming projects,[1239] including preparation of a new national register nomination for the Santa Rosa Island Archeological District, through a cooperative agreement with the University of Oregon; inventory, condition assessment and data recovery of vulnerable archeological sites, through cooperative agreements with the Los Angeles County Museum of Natural History and the University of Nevada, Reno; and reburial of human remains in cooperation with the Santa Ynez Chumash Tribe.

Archeological surveys over the years had documented the remains of historic buildings and structures on the islands. The information was recorded on archeological inventory forms, but little further investigation had occurred. This changed after the 1997 flood event in the Scorpion Valley that exposed the remains of the first adobe house on the site when the floodwaters washed the ranch bunkhouse off its foundation. Don Morris and park employees and volunteers excavated the site and documented the location, footprint, and materials of the historic structure before a new foundation was constructed and the bunkhouse returned to the site.[1240] Excavations in and around the Scorpion Ranch implement shed indicated that the building had likely housed a blacksmith shop in the late 1800s.[1241] Some of the ranch machinery

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1236 Michael Glassow, ed., Channel Islands National Park Archaeological Overview and Assessment, 193-204.

1237 Carey Stanton had secured listing for his company's and the TNC's portion of the island in 1980.

1238 Jennifer E. Perry, Michael A. Glassow, Mark L. Neal, and Kelly R. Minas, "Archaeological Survey and Site Assessment on Santa Barbara Island, Channel Islands National Park," DOI, December 2017.

1239 Laura Kirn e-mail to Ann Huston, July 12, 2019, courtesy of Ann Huston.

1240 Don P. Morris, "A River Runs Through It." *Proceedings of the Fifth California Islands Symposium* (Santa Barbara: Santa Barbara Museum of Natural History, 2002), 677-682.

1241 Sam Spaulding, "Scorpion's Blacksmith Shop." Ibid., 682-685.

and other materials were placed in the building to interpret its use as a blacksmith shop when educational and interpretive exhibits were added to the ranch in 2009.

In 2009, using funds provided by the navy, the park engaged a company called Foothill Resources to document several of the historic sites on San Miguel Island, including the remains of the Nidever adobe, the Lester Ranch site, the Mills ranch area, the site of the barns and sheds, and several refuse dumps.[1242] The park began a survey of historic archeological studies on the NPS property on Santa Cruz Island in 2017, through a cooperative agreement with CSUCI.[1243]

Todd Braje began to survey the coastline of San Miguel for sites associated with the Chinese abalone fishing industry in 2003. He and Linda Bentz surveyed Santa Rosa and Santa Cruz Islands in 2012 and 2013. They documented 72 sites that were used between 1850 and 1915, with most of them dating from before the 1860s. At most sites, piles of black abalone shell are the only archeological signatures. Some sites, however, have produced Chinese pottery sherds, cartridge casings, metal and glass fragments, and other historical debris. The sites represent a small remnant of what was a robust fishery on the islands during the 19th century, and they supplement newspaper accounts and other historical records of the industry.[1244]

Dr. John Johnson of SBMNH and Dr. Sally McLendon of Hunter College in New York completed a cultural affiliation study for the park in 1999.[1245] The report provided an overview of the Chumash settlement along the south-central California coast and inland areas, and on the Northern Channel Islands. The authors examined the Chumash languages, identified historic Chumash villages on the mainland and islands, and traced the descendants of island Chumash who left the islands and were baptized in the Spanish missions. They also discussed the Gabrieleno/Tongva people who had used Santa Barbara Island. An ethnographic overview and traditional associations study for Channel Islands and Santa Monica Mountains is underway in 2019 through a cooperative agreement with Portland State University. The study will identify resources in the parks that are culturally significant and the groups who traditionally see such cultural and natural features as significant to their ethnic heritage and cultural identity.[1246]

Ann Huston retired at the end of 2014 and Laura Kirn, chief of the archeology branch at Yosemite National Park, succeeded her as the Channel Islands chief of cultural resources. Under Kirn's and Hoppa's management, the park's archeology program has been revitalized. Their work includes new special-funded programs to inventory and develop treatment strategies for the park's highly vulnerable sites, closer coordination and facilitation of permitted research, and an emphasis on obtaining and maintaining baseline documentation (including accurate and current site records, base maps, and original records of previous excavations). Collaboration with

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1242 Julia Costello and Linda Thorpe, "Study of Selected Historic-Period Archaeological Resources on San Miguel Island," March 2010. Manuscript on file at Channel Islands National Park library.

1243 NPS, Project Management Information System (hereafter PMIS) Project Statement 195007A.

1244 Todd J. Braje, *Shellfish for the Celestial Empire: The Rise and Fall of Commercial Abalone Fishing in California* (University of Utah Press, 2016).

1245 John Johnson and Sally McLendon. "Cultural Affiliation and Lineal Descent of Chumash Peoples in the Channel Islands and the Santa Monica Mountains," submitted in fulfillment of Order No. CA-0434-1-9001 between the NPS and Hunter College, City University of New York, and Order No. 1443-PX0001-96-476 between the NPS and the Santa Barbara Museum of Natural History, 1999.

1246 Laura Kirn e-mail to Ann Huston, July 12, 2019.

Chumash individuals and groups on archeological investigations has strengthened these relationships as well as enhanced the interpretation of archeological resources.

Shipwreck Studies

Don Morris continued his shipwreck investigations until his retirement. His work had attracted a number of volunteers, several of whom formed an avocational group called Coastal Maritime Archaeology Resources. Formed in 1993, the group's goals were to support the park and sanctuary's research and education programs.[1247] The group, which included Robert Schwemmer, the cultural resource specialist for the Channel Islands National Marine Sanctuary, had extensive expertise and participated in the annual shipwreck documentation trips sponsored by the park and sanctuary. Various members of the group moved away, passed away, or stopped participating, but Carol Linteau remained a stalwart volunteer throughout, traveling from Michigan to assist with research and dive trips and to conduct training for park divers. Kelly Minas continued to carry out annual shipwreck investigations with the assistance of divers from the NPS Submerged Resource Center, the Marine Sanctuary, park divers, and volunteers. The teams focused on locating wrecks that had been identified through archival research and on producing detailed maps, photographs, and other documentation of the wrecks. They also monitored the condition of the wrecks, noting damage by wave action, vandalism, anchoring of dive boats, and other activities.

Between 1993 and 1999, the Park Service's Submerged Resources Center in Santa Fe, New Mexico (formerly the Submerged Cultural Resources Unit), worked with the park to investigate three historic shipwreck sites on San Miguel and Santa Rosa Islands. Marine cultural resource archeologists believed them to be the Pacific Coast lumber schooners *J. M. Colman, Dora Bluhm,* and *Comet.* They sought to determine if precise, systematic testing and examination of widely scattered, disarticulated hull elements and fragments could produce evidence that would contribute to knowledge about specific vessels and vessel types. These investigations confirmed that several features from Northwest Cove and Cluster Point were most likely structural members from wooden, ocean-going vessels constructed in the late-19th century making association with *J. M. Colman* and *Dora Bluhm* highly probable.

The schooner *Comet's* bow on San Miguel Island, although representing only about 10% of the hull, was one of the most well-preserved historical shipwrecks in the park and one of the best-preserved wooden shipwrecks recorded on the Pacific Coast. A problem with investigating the *Comet*, which wrecked in August 1911, was that its bow only appeared on rare occasions. It was exposed in 1977 and again in 1984 but then disappeared under tons of sand. Subsequent attempts to excavate part of it for research uncovered only its anchor. *Comet's* bow was historically significant because it represented a regionally important vessel type linked to the economic development of major metropolitan areas on the Pacific Coast and offered insight into West Coast shipbuilding practices. Winter storms in 1998 and 1999 removed nearly six feet of sand that usually covered the site. Don Morris scheduled a week-long documentation project in April 1999 to record *Comet's* hull before its inevitable natural reburial. Submerged Resources Center archeologists, park staff, and volunteers, spent five days documenting *Comet's* remains with scale drawings, photos and video. Two reports resulted from these investigations, both

1247 "Coastal Maritime Archeology Resources" booklet. Located in Archeology office at CINP.

written by Matthew A. Russell—Comet Submerged Cultural Resources Report in 2004 and Submerged Cultural Resources Site Report Channel Islands National Park a year later.[1248]

Figure 10-6. Remains of the shipwreck *Comet* on San Miguel Island. The wreck only appears above water during rare periods of low tides.

Source: Photograph by Don Morris, April 1999. CINP Archives, Acc. 305, Cat. 6844/014/021.

Tribal Relations

Through the 1980s and 1990s, the park formed and maintained relationships with individuals with Chumash ancestry, including those who had descended from island villages, such as Julie Tumamait-Stenslie and members of her family. The park had been unable to establish a sustained relationship with the Santa Ynez Band of Chumash Indians, the only federally recognized tribe associated with the park, until the 2000s. Superintendent Russell Galipeau and the cultural resource staff began meeting with the Tribal Elders Council to discuss park projects that had the potential to affect archeological resources, such as pig eradication on Santa Cruz Island, restoration of the Prisoners Harbor wetland, and removal of eucalyptus trees in Santa Cruz Island's Cañada del Puerto and Main Ranch, as well as the park's new GMP and other park plans. The Elders Council often provided monitors for ground-disturbing activities related to construction and other activities and consultation regarding inadvertent

1248 Matthew A. Russell, "Comet Submerged Cultural Resources Report," Submerged Resources Center Professional Reports Number 17, NPS, Submerged Resources Center, Intermountain Region, Santa Fe, New Mexico, 2004, 96 pp; Matthew A. Russell, "Beached Shipwreck Archaeology: Case Studies from Channel Islands National Park," Submerged Resources Center Professional Reports Number 18, Ibid., 2005, 174pp.

archeological discoveries. Tribal Elders and the tribe's education coordinator also provided input and information for the park's interpretive and education exhibits and publications about the Island Chumash.

A frequent topic of discussions was planned archeological investigations on the islands. Although they were pleased to know that the park was conducting archeological surveys to document sites on the islands, the elders and their cultural resource specialist were less enthusiastic about archeological testing and excavations undertaken by researchers. Although the excavations were normally carried out according to a research plan, and had the objective of adding to the park's knowledge and understanding of its resources, the elders objected to disturbance of their ancestors' sites and the resulting excavated materials ending up in museum collections. The park attempted to address the tribe's concerns by directing researchers to conduct work on eroding sites that will eventually disappear and to use museum collections for research whenever possible. This remains a perennial issue, studying and protecting archeological sites while also honoring the Chumash Tribe's concerns about the invasive nature of archeological research.

Superintendent Galipeau attended nearly all of the meetings with the Tribal Elders and was very cognizant of the government-to-government relationship between the park and the tribe. With regular meetings between the park officials and the Tribal Elders, familiarity and trust between the two entities grew over time. This trust was put to the test with the discovery of an ancient burial on San Miguel Island. The park had worked closely with the Chumash on several burials and reburials under the Native American Graves Protection and Repatriation Act. These normally involved island burials that had been exposed by wind or sea erosion, and occasionally human remains that were returned to the park by people, or relatives of people, who had worked on or visited the park long in the past and wanted to restore the remains to where they belonged. The tribe's spiritual leader, Adelina Alva-Padilla, would come out to the islands to conduct the reburial ceremonies, or deputize another Chumash member to do it.

The San Miguel burial, however, was a rare discovery that the park and the researchers wished to excavate and document.[1249] University of Oregon PhD student Todd Braje and his professor Dr. Jon Erlandson noticed the top of a skull eroding from a deeply buried site in a gulch while conducting fieldwork in 2005. The site had been previously dated to about 9,500 years BP. The park developed a plan of action for excavation of the burial in consultation with Braje and Erlandson, along with Dr. Phil Walker, a highly regarded UCSB bioarcheologist who had worked closely with the Chumash Tribe over the years. The group met with the Tribal Elders and Julie Tumamait-Stenslie in 2006 to describe the proposed excavation and research plan. While deeply conflicted over the decision, the tribe agreed that the excavation should proceed. The excavation revealed that the remains were intentionally buried in a flexed position with two large cobbles placed over the burial. It was located beneath a midden deposit that dated from 8,600 to 9,600 years BP, indicating that the remains were of a similar age. The remains were those of a male, and were dubbed "Tuqan Man" by the researchers, *Tuqan* being the Chumash name for San Miguel Island.

The plan of action called for radiocarbon dating of the remains and the site, isotopic analysis of the teeth and bones to determine the diet and where the individual had lived over time, bioarcheological analyses, CT scanning, and DNA analysis. The park had agreed to complete the

1249 The following information is from "The Journey of Tuqan Man" a draft manuscript by Ann Huston on file at CINP.

investigations within six months, but it was soon clear that that deadline could not be met. The time line was extended another year. There appeared to be archeological continuity, with some gaps, linking the cultural materials found at the San Miguel Island site with the cultural evolution of the island Chumash through the millennia. But the bioarcheological investigations indicated that the remains did not resemble closely those of other remains that were known to be Chumash, located in collections that had been excavated from island cemeteries between 3,000 and 7,500 years of age. Isotopic analyses seemed to indicate that Tuqan Man had spent his early life on San Miguel Island, but the sample used for the analyses was highly degraded and the results were therefore questionable. These ambiguous conclusions did not meet the NAGPRA threshold of demonstrating a strong cultural relationship between Tuqan Man with an existing cultural group, and prevented the park from returning the remains to the tribe for reburial. Additional bioarcheological research, isotopic analyses, and several attempts to analyze DNA samples from the remains ensued.

As the years passed and research continued, the tribe's frustration mounted at the delays. At the same time, great advances were made in isotopic research and genetic technology, which are relatively new and rapidly developing scientific fields. DNA results obtained from several ancient North American remains demonstrated that present-day American Indians descended from the earliest groups to enter North America, and the notion that the physical attributes of an individual dictated whether or not that individual could be considered "American Indian" was largely discarded. Although the archeological and linguistic data pointed toward a Chumash affiliation for the Tuqan Man remains, additional bioarcheological comparisons and isotopic analyses of the remains were inconclusive as far as associating the remains with the Chumash or any other cultural group, and no DNA analyses were successful. Ultimately, new NAGPRA regulations were published for "unclaimed remains" such as Tuqan Man, which allowed the park to complete the required determinations under NAGPRA and transfer custody of the remains to the Chumash Tribe. In May 2018, Superintendent Galipeau, accompanied by Huston and Kirn, escorted members of the Santa Ynez Tribe who took the remains of Tuqan Man to San Miguel Island for reinterment.

In 2001, the Chumash Maritime Association approached the park with a proposal to paddle a Chumash redwood plank canoe that they had constructed from the mainland to Scorpion Cove on Santa Cruz Island. The canoe, known as a *tomol*, was the historic watercraft that the Chumash had used for several thousand years to travel between the islands and the mainland and for hunting, fishing, and trading. On September 8, 2001, the *'Elye'wun* (meaning swordfish) made the historic crossing from the mainland to Santa Cruz Island. Over 150 Chumash families and friends gathered to greet the *tomol* and paddlers on the beach at Scorpion Cove, the site of the historic Chumash village of *Swaxil*. This event has been repeated nearly every year since, joined by a *tomol* constructed by the Santa Ynez Chumash Tribe, and with Chumash youth and women participating as paddlers. It is widely accepted as an important cultural event that provides local Chumash families an opportunity to connect with the island, and share stories and traditional practices.[1250]

Galipeau and Kirn continued to improve and expand relations between the park and Chumash partners. These included more frequent meetings and site visits to discuss park projects. As a natural outgrowth of this, the park's work with the Chumash is evolving to include collaborative

1250 Information in this section comes from https://www.nps.gov/chis/learn/historyculture/tomolcrossing.htm, Accessed July 1, 2019.

programs such as traditional plant gathering and ethnographic research. Increased efforts for NAGPRA repatriations and reburials on the part of the park and the Santa Ynez Band have resulted in one of the largest reburials in NPS history, the return of remains of more than 940 individuals and nearly 24,000 funerary objects to park islands. The park and the tribe are also embarking on a new project to develop a comprehensive agreement under NAGPRA for addressing burials on the islands. Beginning in 2019, the park received funding and began outreach for an Ethnographic Overview and Traditional Associations Study. This study is one of the agency's baseline documents, similar to the Historic Resource Study, Archeological Overview, and Administrative History. The goal is to provide more in-depth documentation of the historical and cultural ties American Indian cultural groups have to the park lands and resources, and to document specific places of traditional cultural significance. Other recent special-funded research includes a Chumash place-names project, which seeks to link places documented in John Peabody Harrington's early 20th century notes to specific locales on the islands, thereby providing enhanced knowledge and public interpretation of the rich Chumash history and ongoing connections with the park.[1251]

Museum Curation

When she arrived at the park, Ann Huston began to address the shortcomings in the park's curation program by requesting project funding for inventorying and archiving park records and completing several of the required museum management documents. The park received project funding in 2001 for a four-year archival cataloging project.[1252] Archivists from the NPS Western Archeological and Curation Center (WACC) in Tucson, Arizona, canvassed the park's administrative files and records maintained in the various division offices to catalog and incorporate relevant documents into the park archives. The expanded archives, which grew from a single cabinet to six cabinets and a large map file by the end of the project, provided a great deal of primary data for Livingston's historic resource study and for the park's administrative history. In 2002, the park completed its first annual inventory in many years, with the assistance of Stephanie Stephens, curator from the Alaska Regional Office. First brought in by WACC to assist in resolving registration problems identified by the archives project, Stephens continued to make annual or semi-annual visits to the park to carry out the annual inventory, run the Collection Management Report, accession new collections into the Automated National Catalog System (ANCS+), update the National Catalog records, and provide professional curatorial assistance to the park.[1253]

The NPS Regional Office later established a "Curator of Record" program. Through this initiative, park and regional curators traveled to parks lacking curatorial expertise to complete the annual reports and accession of new collections. This provided at least a minimum of curatorial expertise to these parks. The curator of Santa Monica Mountains National Recreation Area, Phil Bedel, served this function until his retirement a few years later, and was succeeded by archivist Carola DeRooy, from Point Reyes National Seashore. Upon her retirement, staff from Yosemite National Park began assisting Channel Islands.

1251 Laura Kirn communication to Lary Dilsaver, October 21, 2019.

1252 PMIS Project Statements 48678AB and 72339AB NPS electronic database.

1253 Ibid.

Curators from the NPS Regional Office and several parks conducted a site visit and wrote a new Museum Management Plan for Channel Islands in 2005.[1254] The plan identified a number of deficiencies, which allowed the park to request project funds to address them. Significant issues identified in the Museum Management Plan included a lack of documentation and inconsistencies in the park's accession records. In 2006–07 NPS curator Steve Floray examined each of the accession files and the accession records in the Interior Collections Management System (ICMS), which succeeded the ANCS+ and ANCS programs to ensure that the records were complete and correct and to secure missing documentation, if possible, and amend the records.[1255] The park also received project funds to complete other required curatorial plans, including a Housekeeping Plan, Integrated Pest Management Plan, and a Collection Condition Survey.

Channel Islands National Park received additional funding for archival cataloging in 2009 and benefitted from a 2010–12 "flexible base increase" for the National Park Service to address the backlog of archival cataloging in the parks.[1256] Archivist DeRooy managed both projects for Channel Islands National Park using interns from the San Francisco State University Museum Management Program. The archivists again culled and cataloged the park's administrative files and division files, filling three more museum cabinets with archival materials. The park completed a Museum Emergency Operations Plan in 2009[1257] and embarked on collecting and cataloging the park's natural resources records in 2018 using Yosemite National Park's curatorial staff.[1258]

A cooperative agreement with the Santa Barbara Museum of Natural History had established the museum as the park's archeological and paleontological repository in the 1990s. The museum already maintained a large collection of Chumash artifacts from sites on the mainland and from Philip Orr's research on Santa Rosa Island, making it a natural fit for the park's archeological materials. For many years, the park's collection at the museum was stored in a single cabinet and consisted of isolated items that Don Morris had collected and several shelves of materials that had been seized as evidence in the Krantz prosecution. Channel Islands cultural resource staff requested and received project funding to organize and catalog the extensive archeological materials that were stored at the park, the museum, various universities, and elsewhere.[1259] Many of these materials had been collected during students' PhD fieldwork, were still stored at their universities, and had yet to be incorporated into the park's collection. Restitution funds from the Krantz prosecution allowed the collections from the case to be organized and cataloged. Curator DeRooy formatted a catalog spreadsheet for archeological students and researchers to use for their park collections. She uploaded the catalog data into the park's catalog program and the researchers transmitted their collections to the museum, where curator John Johnson and collections manager Ray Corbett, who had worked briefly at the park,

1254 NPS, "Channel Islands National Park Museum Management Plan," DOI, Cultural Resources Pacific West Region, January 2005.

1255 PMIS Project Statement 112113A, NPS electronic database.

1256 PMIS Project Statement 112340AB, NPS electronic database.

1257 PMIS Project Statement 131718A, NPS electronic database.

1258 PMIS Project Statement 205577A, NPS electronic database.

1259 PMIS Project Statement 73688A, NPS electronic database.

stored them in additional museum cases that the park purchased. This greatly improved the condition of the park's archeological collections and made them accessible to researchers.

Similar to the archeological collections, the park maintained a cooperative agreement with the Santa Barbara Botanic Garden for curation of its herbarium specimens. Park and Botanic Garden researchers had collected island specimens for many years, and these had been integrated into the Botanic Garden's collection but had not been included in the NPS catalog database. In addition, numerous specimens at the park and the Botanic Garden awaited preparation and cataloging. Channel Islands was able to obtain project funds for USGS botanist Katie Chess to identify, label, and catalog park specimens that had been integrated into the Garden's collection.[1260] Preparation and cataloging of the backlog of specimens continues.

The park lacks an external repository for its historical objects, which consist primarily of items associated with the ranching history on Santa Cruz and Santa Rosa Islands, the Coast Guard use of Anacapa Island, and items from shipwrecks. The existing collection is small and is maintained in one of the curatorial storage rooms at the Ventura headquarters. Numerous items from the Gherini Ranch are stored in the Scorpion ranch house. The Gherinis still own the ranching implements and a number of the historical items stored at the ranch house. Several of these items are on loan to the park and exhibited in the ranch house visitor contact station.

One of the park's most visible artifacts is the US Coast Guard's Fresnel lens on exhibit in the Anacapa Island visitor center. Anacapa Island maintenance mechanic Steve James deserves the credit for "rescuing" the lens in the late 1980s when the Coast Guard planned to remove it from the island. The Coast Guard agreed to loan the lens to the park. James disassembled and relocated the lens to the island visitor center, stripped the black paint from the brass and reassembled the lens. In 1993, NPS conservator Gretchen Voeks, Don Morris, and a corps of volunteers took the lens apart, polished all of the pieces, coated them with Incralac (a clear, high-gloss coating for copper, brass, aluminum), and Butcher's Wax, and put it back together. Since its initial rehabilitation, Voeks has returned to the park every few years to conduct conservation maintenance of the lens. In 2003, a retired Coast Guard lampist cleaned and repaired the rotating mechanism of the lens. Park volunteers clean the glass and brass lens and rotate it on a regular basis to maintain it in good condition between Voeks' maintenance visits.[1261]

Regional and park curators returned to the park in 2017 to conduct a new Museum Management Plan to guide the park's future curatorial efforts. The team reiterated the need for the park to hire a curator to maintain the collection and provide access to it for researchers. Another high priority is to find a secure location for the museum collections housed at the park, which are vulnerable to flooding or tsunami in their current location in Ventura Harbor. The park is collaborating with Santa Monica Mountains National Recreation Area on avenues for both priorities: bringing on professional curatorial staff and establishing a more permanent repository for the collections. Special funding has also been secured to begin the process of locating and establishing control of collections generated through permitted research, much of which resides in academic institutions and partner institutions such as the SBMNH, Santa Barbara Botanic Garden, and Los Angeles County Museum of Natural History. This work is expected to continue as new

1260 PMIS Project Statements 97302AB, NPS electronic database.

1261 Gretchen Voeks, "Treatment Report, July 25, 2016. On file in Cultural Resources Division at CINP. Steve James's comments to Ann Huston, March 23, 2021.

collections come to light, both through generational changes at academic institutions that often result in de-accessioning materials collected by long-time researchers and as younger generations of families review private collections from early years of collecting.[1262]

Cultural Landscapes

Since the late 1990s, Channel Islands National Park has worked to identify and manage the island cultural landscapes, a relatively young program that provides a more comprehensive context for understanding historic properties. Although landscape architecture as a discipline and profession has existed for centuries, it traditionally emphasized the deliberate creation of landscapes for those who could afford them. The concept of cultural landscape, as used in historic preservation and the national park system, stems from the academic discipline of geography. Many American scholars cite geographer Carl O. Sauer's influential 1925 article, "The Morphology of the Landscape," as the definitive origin of the concept, but German geographer Otto Schlüter actually developed both the concept and the term earlier.[1263] The National Park Service defines a cultural landscape as:

> *a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.*[1264]

Cultural landscapes encompass the natural features, structures, complexes, circulation, vegetation, archeology, and small-scale features that contribute to the significance of historic properties. They are significant and complex entities for two reasons. First, each is an accumulation of all the past activities in that place. Subsequent use has erased many impacts of previous human action, but some, although physically gone, have shaped the spatial patterns of organization and circulation that have followed. These spatial patterns were not well-represented by the National Register of Historic Places as initially established by the National Historic Preservation Act in 1966.[1265] Second, many cultural landscapes are both ecologically dynamic and still in use by people, which means they may evolve. As with individual structures, an agency or organization that decides to preserve or restore a past landscape must choose what era to represent. The National Park Service must decide whether to interrupt natural processes and human use to maintain or reestablish the landscape character of a particular time in the history of a place.

The historic ranches on Santa Cruz and Santa Rosa Islands are good illustrations of historic vernacular landscapes, each of which encompasses the entire island and comprises the ranch complexes (ranch houses, outbuildings, corrals), as well as the roads, fencelines, tree plantings

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1262 Laura Kirn personal communication to Lary Dilsaver, July 11, 2019; Laura Kirn e-mail to Ann Huston, July 17, 2019.

1263 Carl O. Sauer, "The Morphology of Landscape." *University of California Publications in Geography*, 1995, 2 (2) 19–53; Walter Roubitschek and Günther Schoenfelder, "Otto Schlüter (1872-1959): His work for the geography and the Leopoldina." Journal der Sächsischen Akademie der Wissenschaften *Journal of the Saxon Academy of Sciences*, 5, http://denkstroeme.de/heft-5/s_227-232_roubitschek-schoenfelder/ Accessed February 2, 2014.

1264 NPS, Director's Order-28: *Cultural Resource Management Guideline*, 1998. http://www.nps.gov/history/history/online_books/nps28/28chap7.htm. Accessed February 12, 2014.

1265 "An Act to Establish a Program for the Preservation of Additional Historic Properties Throughout the Nation, and for Other Purposes," October 15, 1966, 80 Stat. 915, 16 U.S.C. 470 et seq.

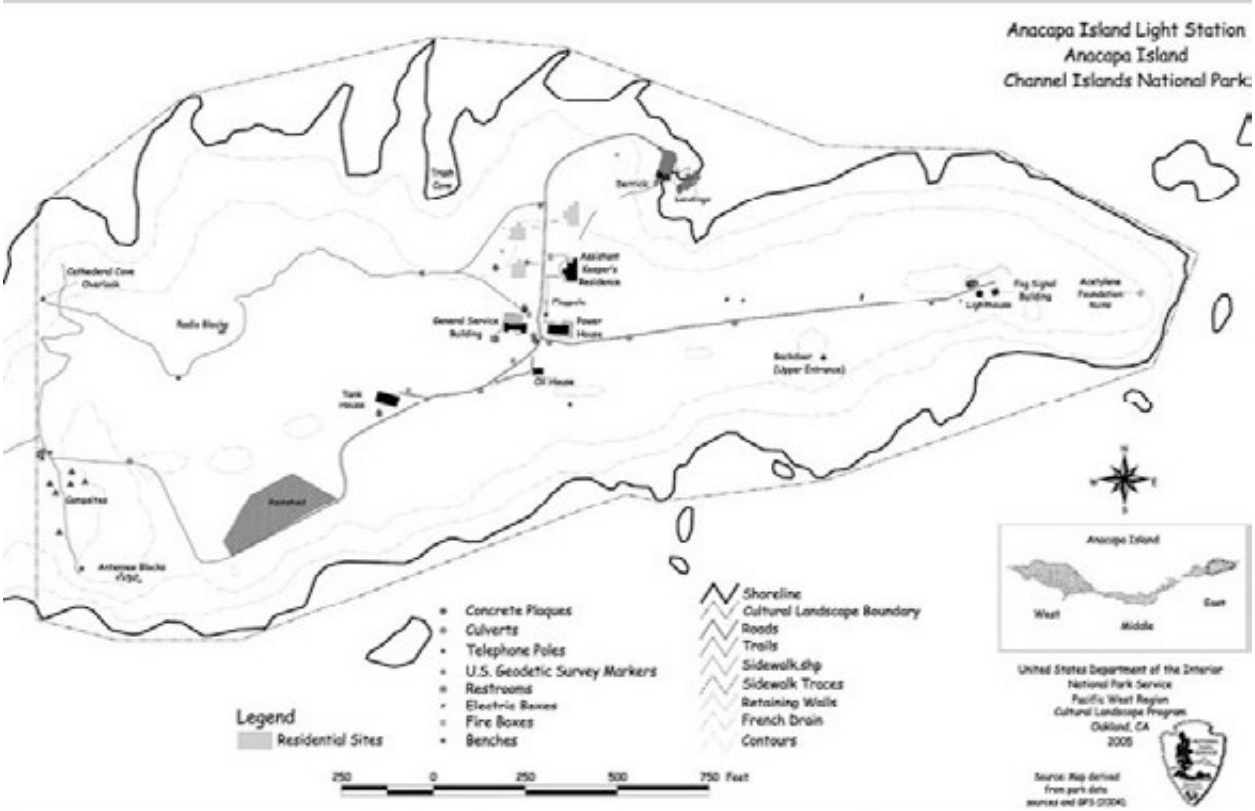
and other features associated with ranching operations on the islands. Similarly, the Coast Guard light station on Anacapa Island encompasses not only the buildings on the top of the island, but the concrete landings, the crane, the concrete rain shed, and scattered foundations, trails, drainage ditches, and features in the Coast Guard reserve.

In order to list a cultural landscape in the National Register of Historic Places as a historic district, a park must first gather data by inventorying its features. The NPS Cultural Landscapes Inventory (CLI) is a database containing information on the historically significant landscapes in the national park system. The CLI includes specific landscape reports that identify and document each landscape's characteristics and level of significance. The National Register of Historic Places criteria are used to evaluate cultural landscapes: (1) they are associated with events that have made a significant contribution to the broad patterns of our history; (2) they are associated with the lives of significant persons in our past; (3) they embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or (4) they have yielded or may be likely to yield, information important in history or prehistory.[1266]

The CLI database for Channel Islands National Park includes four national register-listed or eligible cultural landscapes on three of the islands. The Anacapa Island Light Station is an approximately 77.48-acre historic site located on East Anacapa Islet. The 1991 national register listing established the period of significance for the Anacapa Island Light Station as 1932 to 1940. The regional office staff completed a second cultural landscape inventory for Anacapa Island in 2005 that extended the period of significance to 1968, the year the light beacon and fog-signal were transferred to automated use, and provided additional information that can be used to revise and update the earlier national register documentation.[1267]

1266 NPS, "National Register Criteria for Evaluation," National Register of Historic Places, September 13, 2018, https://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm Accessed November 28, 2018.

1267 NPS, Director's Order-28: *Cultural Resource Management Guideline*, 1998; Santa Barbara Island does not have a landscape report because it has few historic features remaining. San Miguel Island is still the property of the US Navy.



Map 10-1. This map of the Anacapa Island Lighthouse Station Cultural Landscape includes all the prominent human features that the park must preserve to understand past activities and their spatial patterns.

Source: "Anacapa Island Light Station, Channel Islands National Park," NPS Cultural Landscapes Inventory, 2005, page 3. NPS Pacific West Regional Office Cultural Landscape Program.

The NPS Regional Office carried out cultural landscape inventories of Santa Rosa and Santa Cruz Islands between 2002 and 2004, identifying and mapping the historic landscape resources on each of the islands. The inventories documented historic ranching districts comprising all of Santa Rosa Island and the NPS property on Santa Cruz Island. The Santa Rosa Island Ranching District is a rural vernacular landscape that includes the entire land mass of Santa Rosa Island. The island was never in divided ownership and the ranchers used virtually all of it for their stock, hence the entire island is eligible to be listed in the national register.[1268]

Santa Cruz Island has two separate landscape inventories based on the ranching period from the 1850s through 1997. The Caire-Gherini Ranch Historic District, also known as the East Santa Cruz Island Ranching District, is the Gherini segment as it existed after the family division of the island in 1925. It was evaluated as a whole and determined eligible for listing in the national register. The Rancho del Norte District on the Isthmus, developed in 1952 by the Stantons for their cattle operation, also was found eligible for listing. NPS cultural resources personnel completed detailed inventories and analyses for Rancho del Norte in 2002 and the Caire-Gherini Ranch Historic District in 2003. The cultural landscape inventories for Santa Rosa and Santa Cruz Islands were transmitted to the SHPO for official determinations of their national register eligibility. This assisted the park in complying with its responsibility to evaluate eligible

1268 NPS, "Santa Rosa Island Ranching District Cultural Landscape Inventory," CLI-725083, 2002, 6.

properties for the national register and in streamlining its historic preservation compliance under section 106 of the National Historic Preservation Act for future projects in the park.

The Nature Conservancy administers most of Santa Cruz Island's historic ranch resources on its portion of the island, including the Main Ranch in the island's Central Valley, Christy Ranch on the island's west end, remnants of satellite ranches in several locations, and other features such as roads, rock retaining walls, and water control structures. TNC's mission is to conserve and restore natural areas and natural resources, hence it lacks cultural resources expertise on its staff. The National Park Service often provides assistance to TNC with archeological and historic preservation projects. In 2011, Ann Huston and the cultural landscape staff from the regional office studied the cultural landscape of the Main Ranch, with the cooperation and assistance of TNC. That study identified the historic landscape resources and presented appropriate preservation and treatment options for the historic buildings, structures, trees, vegetation, and other ranching-related features at the ranch, hoping to provide TNC with data to better steward their significant ranching resources.[1269] The park also funded pruning of the *allée* of eucalyptus trees lining a portion of the road leading from the Main Ranch to the University of California Field Station. A very visible historic landscape feature, the trees had not been maintained for many years and had the potential to drop hazardous limbs along the road and on and around the field station buildings. [1270]

In 2018, the park obtained funding for a cultural landscape report for Scorpion Valley and the Smugglers Ranch olive orchards. The intent for this work at Scorpion was to provide guidance on how to maintain the historic district while also implementing actions identified in the GMP in a sensitive manner compatible with the historic district. For Smugglers, the purpose was to address a proposal developed by the park's Natural Resources Management Division to combat the issue of spread of "feral" olives throughout the island by removing high-fruiting trees and replacing them with native species. A team composed of staff from the regional, national, and park programs completed a draft cultural landscape treatment plan in 2019. The document provides recommendations for preserving and managing the historic vegetation, circulation, and other historic landscape features as well as schematic design for the campgrounds. Based on this work, the park is poised to request special funding for projects to achieve these recommendations.[1271]

1269 NPS and The Nature Conservancy, "Main Ranch Historic Landscape Survey and Preservation Plan, Santa Cruz Island," 2011. Report on file at Channel Islands National Park.

1270 Ann Huston noted that "regional office officials also identified the whole island as the Santa Cruz Island Ranching District, with the Caire-Gherini Ranch and Rancho del Norte as 'component landscapes' within the overall Santa Cruz Island Ranching District. In addition to those two component landscapes, there are other resources, such as the Prisoners Warehouse and other features that are not within the component landscapes, but which contribute to the overall SCI Ranching District. Though technically the SCI Ranching District should encompass the entire island, we don't have jurisdiction, so it only encompasses the NPS portion." Ann Huston communication to Lary Dilsaver, July 19, 2019.

1271 NPS, "Cultural Landscape Report, Scorpion Ranch and Smugglers Olive Orchard, Channel Islands National Park." February 2019, incomplete (75 percent) draft, on file at CINP.

Historic Architecture

With the acquisition of Santa Rosa and East Santa Cruz Islands, Channel Islands National Park gained a large number of historic properties that it had to preserve and maintain. The historic ranch buildings also provided the park with facilities that could be adapted for use by park staff and visitors, particularly since Scorpion Ranch and the Bechers Bay ranches are located at the main points of entry and visitation for each island. The park incorporated plans for rehabilitation and adaptive use of these buildings into the 2015 GMP to preserve them as resources, make them available for visitors, and minimize the amount of new construction on the islands.

In 1998, the cultural resources division assumed responsibility for maintaining these historic properties. Many of the buildings and structures were in fair to poor condition, and required immediate attention. Finding workers trained in the historic preservation trades and standards was the biggest obstacle in undertaking repairs and rehabilitation of these historic resources. While Don Morris and Ann Huston continued to use the park's highly skilled maintenance staff when possible, those workers had more than enough work of their own to do, and they often found it more expedient to replace historic fabric, rather than repair it. Morris and Huston struggled to find qualified workers to do preservation work on the historic island buildings. They used seasonal workers, the NPS Southwest Region's preservation crew out of the Santa Fe office, and contracted with skilled individuals for small projects.

With the end of ranching and removal of the cattle on Santa Rosa Island, Vail & Vickers saw little need to maintain the ranch house, barns, and other ranch buildings at Bechers Bay. Although their special use permit required them to repair and maintain the ranch buildings, the company retained only a caretaker on the island who looked after the ranch, kept the property tidy and the grass mowed, assisted with the hunt, and undertook minor repairs. To maintain the buildings until they passed into NPS hands, the park used cultural cyclic maintenance funds to reroof and repaint the 1870s-era horse barn, blacksmith/generator barn, and main ranch house. The island maintenance crew, led by Earl Whetsell, carried out the work, and also upgraded the electrical system in the barns and installed a new electrical panel.[1272] The NPS preservation crew in Santa Fe, New Mexico, travelled to the park to stabilize four of the historic outbuildings at Bechers Bay ranch.[1273]

The island maintenance workers as well as Morris and Huston had always maintained good relations with the Vails, who understood that these staff members appreciated the island's ranching history and its cultural resources and wanted to preserve these for the public. Thus, gaining the cooperation of Vail & Vickers for these activities usually was not difficult. The park had requested repair/rehabilitation funds for constructing a new foundation under the ranch house as early as the mid-1990s and had contracted for an engineering design. When Huston arrived at the park, she contracted with Architectural Resources Group to complete a historic structure report for the ranch house, which expanded the needed work to add seismic strengthening; repairs to the doors and windows, siding, and other features; and upgrades to the electrical and plumbing systems.[1274] The funding request was revised and the park was granted

1272 PMIS Project Statement 72009A, NPS electronic database.

1273 PMIS Project Statements 97231A and 98136A, NPS electronic database.

1274 Architectural Resources Group, "Vail & Vickers Ranch House, Santa Rosa Island, California, Historic Structure Report," Prepared for the NPS, December 2002.

funding to rehabilitate the ranch house in 2003.[1275] However, the Vails refused to allow the park to undertake the work because they would have had to vacate the house for approximately a year. Family members enjoyed the use of the house during the summers and also housed hunters there in the fall. Vacating the house would suspend these activities. For the remainder of the Vail & Vickers RUO, the Vails refused various options the park offered that would allow the work to go forward.

In 2013, after the RUO ended, the park engaged Drisko Studio Architects and structural engineer Mel Green to update the architectural plans and provide a current cost estimate for the rehabilitation. The park received funds in 2014 for the rehabilitation, but the bids came in far higher than the available funds. In 2016, the park was finally able to contract for the rehabilitation. Immediately upon construction, sensitive and highly significant archeological resources were discovered. This discovery resulted in a hiatus in construction, during which intensive investigations and consultations ensued. After coming to agreement with Chumash consulting parties and the California SHPO on a path forward, construction resumed. The ranch house rehabilitation was finally completed in early 2019.

The December 1997 flood that ravaged the Scorpion Valley required a great deal of immediate work on East Santa Cruz Island. When the park had finally gained full acquisition of that portion of the island earlier that year, they had removed decades worth of trash that had accumulated on the island, established several campsites, and began welcoming campers and day visitors. The flood destroyed all that work and moved the 1914 bunkhouse 20 feet off its foundation. Using flood recovery funds, the park hired several seasonal carpenters who constructed a new foundation and moved the bunkhouse onto it. Huston used these carpenters to re-roof and structurally strengthen the bunkhouse and undertake repairs to several of the other buildings at the ranch. In their efforts to replace the deteriorated back wall and other portions of a historic shed west of the adobe ranch house, the park's over-zealous seasonal carpenters ended up reconstructing the historic building. At this point Huston sought assistance from the Santa Fe preservation team to carry out other needed work at the ranch.

Architect Paul Neidinger from the Santa Fe team provided architectural recommendations for stabilizing the historic shed under the Monterey cypress trees that had been dubbed the "leaning shed." The island crew pulled the shed upright and added posts and cross-bracing to stabilize it. This structure now houses a blacksmith shop interpretive exhibit. Neidinger also suggested measures for strengthening the framing of the single-wall construction of the bunkhouse and designed a toilet facility and shower room for the reconstructed rear porch of the building, which the island maintenance crew completed. The park received repair / rehabilitation funds for the two-story Scorpion adobe ranch house in 2003.[1276] Constructed of low-fired adobe bricks atop a three-foot stone rubble wall, the building required substantial seismic reinforcement. The Santa Fe preservation crew undertook the rehabilitation, completing the seismic work, upgrading the electrical system, reconstructing the historic windows and doors, replacing the roof, and repainting the entire building in its historic colors. The crew later returned to stabilize the historic meat shed at the ranch. The flood had brought large amounts of sediment down the valley from the sheep-grazed barren hillsides. The soil had

1275 PMIS Project Statement 16314A, NPS electronic database.

1276 PMIS Project Statement 16410A, NPS electronic database.

collected around the meat shed, and had to be dug out around the structure, leaving it sitting in a depression.

The soil also collected around the eucalyptus trees in the campgrounds farther up the valley. The trees were evaluated by an arborist after the flood and some were removed. Others were pruned, some by inappropriate topping of the trees, making them less stable. Because the trees in the campground formed part of the cultural landscape and needed to be properly maintained for the safety of campers and the health of the trees, the cultural resources division took over their annual evaluation and pruning. The Monterey cypress trees at the entrance to the ranch, which shaded the restroom, picnic tables, and information kiosk, were encompassed in this tree maintenance program, as well as the eucalyptus trees near the beach and the restroom at Smugglers Ranch and the row of eucalyptus along the bluff at Prisoners Harbor.

In 2010, Channel Islands received a base funding increase for a network preservation crew that would be headquartered at Channel Islands and would serve Channel Islands National Park, Santa Monica Mountains National Recreation Area, and Cabrillo National Monument. The park hired Sterling Holdorf from Rocky Mountain National Park as the preservation team leader and brought on a term preservationist. Two career seasonal preservationists were added to the team several months later. This was a huge boon to the network's capabilities as it immediately gave the park the capacity to carry out its own preservation projects and those of the other network parks.

Rehabilitation of the Smugglers ranch house began in 2012. During the 1980s, the Gherini's hunt club concessioners had cleaned up the ranch house, which had been abandoned for several decades. They installed new windows and added a low stone façade across the front of the ranch house and a new stairway and porch across the rear. The latter allows access to the second-floor bedrooms. They also built a bathroom facility adjacent to the house, added a cobble patio and a low stone wall with a barbecue pit in front of the house, and planted several palm trees. In 2009, the park removed all of the nonhistoric additions and constructed a new bathroom building several feet away from the house.[1277] Architectural Resources Group prepared the architectural and engineering plans and specifications for rehabilitating the ranch house. Schipper Construction carried out the rehabilitation in 2012, using contractor Eagle Restoration for the seismic reinforcement, masonry work, and painting. The rehabilitation restored the historic rough plaster finish across the bottom of the front wall, reconstructed the windows in their original design, and built a new code-compliant porch and stairway across the rear of the building. They also replaced the electrical and plumbing systems and painted the interior and exterior of the building in its historic colors.[1278]

1277 PMIS Project Statement 118882A, NPS electronic database.

1278 PMIS Project Statement 74955A, NPS electronic database.

Figure 10-7a. The adobe house at Smugglers Cove was built in 1889. By the 1970s it had fallen into disrepair and been vandalized.

Source: Photograph by Bill Ehorn. CINP Archives, Cat. 305, Acc. 6844/305.012.

Figure 10-7b. The National Park Service has restored the Smugglers adobe. Inside one can read graffiti from nearly a century past.

Source: Photograph by L. Dilsaver, August 2017.

With TNC's donation of the isthmus property on Santa Cruz Island in 2000, the park added several more historic structures to its inventory, including the 1889 stone and brick double-gabled warehouse at Prisoners Harbor, and the small frame ranch house, metal shed, and corrals at Rancho del Norte. The central brick-bearing wall of the Prisoners warehouse had badly deteriorated, with bricks missing in some places due to water leaking through the "valley" between the two gables. Park staff replaced the roof, and a mason from the Santa Fe preservation team completed repairs to the brick wall.[1279] The park had to have new bricks manufactured for the repairs because modern bricks could not be found to match the size, color, and texture of the historic bricks that had been manufactured on the island. A member of the Santa Fe preservation crew and an assistant also repaired TNC's deteriorated historic lookout building at Prisoners Harbor, which was a popular visitor attraction at the site. They reroofed the building, improved the stone foundation, and repaired deteriorated wood members of the small 1880s Victorian structure.

While under TNC ownership, the Del Norte ranch house, built in 1950 by the Stantons for their cattle operation, had been repaired by the Santa Cruz Island Foundation and was used by it for their volunteer efforts on the TNC portion of the island. The Foundation had put substantial work and funds into repairing the ranch house and furnishing it and was not happy about the park taking ownership and needing use of the ranch house for park housing on the isthmus portion of the island. The National Park Service and SCIF signed a cooperative agreement regarding both parties' use and upkeep of the building and grounds. As it turned out, the navy barracks at the top of the ridge were better equipped and often more convenient for park housing. However, the park continues to use the Del Norte ranch house for park housing and has completed several projects there including reroofing of the house, upgrading the electrical system, and adding a new photovoltaic system at the corral shed.[1280] The network preservation crew and California Conservation Corps undertook repairs to the corral fences. SCIF continues to carry out maintenance on the buildings and to mow the adjacent fields.

Christy Ranch is one of the oldest ranches on Santa Cruz Island and is located on the west end of the island. It consists of a two-story adobe dating to 1864 and another two-story adobe bunkhouse dating to about 1890. On TNC property, the buildings are used infrequently and are deteriorating and in great need of rehabilitation. To assist TNC, in 2012, the park contracted with a historic preservation architectural and engineering firm to assess the condition of the buildings and provide recommendations and cost estimates for their seismic retrofit and rehabilitation.[1281] The network preservation crew, with the assistance of the TNC facilities manager, followed up by reroofing the 1890 bunkhouse, and incorporating seismic strengthening in its design and construction.[1282]

The preservation crew has also accomplished numerous other projects on the islands since their arrival in 2010–11, including repairs to the Anacapa Island visitor center, repairs and repainting

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1279 PMIS Project Statement 48569A, NPS electronic database.

1280 PMIS Project Statements 103338A, 131098A, NPS electronic database.

1281 Drisko Studio Architects and Melvyn Green & Associates. "Christy Ranch-Casa Vieja Condition Assessment, Santa Cruz Island," December 15, 2012; Drisko Studio Architects and Melvyn Green & Associates. "Christy Ranch-Bunkhouse Condition Assessment, Santa Cruz Island," December 15, 2012. Reports on file at Channel Islands NP.

1282 PMIS Project Statement 148734A, NPS electronic database.

of the Scorpion bunkhouse,[1283] pruning the Smugglers area olive groves,[1284] repairs to the corrals at Rancho Del Norte on Santa Cruz Island,[1285] rehabilitation of the schoolhouse on Santa Rosa Island,[1286] and reroofing and repairs to the China Camp buildings on Santa Rosa.

With Sterling Holdorf's transfer to the chief of facilities management role in 2016, the preservation team entered three years of transition. Laura Kirn assumed direct management of the team and worked closely with the two preservationists, Verlon (Lonnie) Maize and Donald Houk, to maintain a core program of work while experimenting with new means of providing capacity. As a result, the park began an ongoing collaboration with the California Conservation Corps, the National Council for Preservation Education, and other programs to bring on youth crews and interns to do preservation work. Two new temporary positions were created and filled, and a long-vacant term exhibit specialist position was created and filled.

1283 PMIS Project Statement 172735A, NPS electronic database.

1284 PMIS Project Statement 172405A, NPS electronic database.

1285 PMIS Project Statement 172680A, NPS electronic database.

1286 PMIS Project Statement 185180A, NPS electronic database.

Figure 10-8. Buildings are not the only structures to restore and maintain on the Channel Islands. The network preservation crew and assistants reconstructed the windmill at Scorpion Ranch on Santa Cruz Island. From left to right: Murray Boatright, Don Mills, Donald Houk, Rachel Perzel, Brent Wilson, and Sterling Holdorf.

Source: Photographer and date unknown. CINP Digital Image Files.

PLANNING AND THE WILDERNESS QUESTION

The National Parks and Recreation Act of 1978 requires the preparation and timely revision of general management plans for each unit of the national park system.[1287] In addition, the park's enabling act, Public Law 96-199, required a wilderness study for Channel Islands National Park. On October 1, 2001, the National Park Service announced that it would initiate a planning procedure for a new general management plan for Channel Islands National Park. Over the 16 years since the last update to the original GMP, the Park Service had acquired new lands on Santa Rosa and Santa Cruz Islands, coped with a decline in the condition of marine life and some endemic terrestrial species, begun eliminating nonnative species and restoration of altered ecosystems, and seen a 300% increase in park visitation. This first newsletter highlighted a laundry list of issues to be addressed in the planning process and identified major questions for the public to consider:

1. What should we do to ensure that the park and its resources are adequately protected, preserved, restored, and/or maintained in good condition?
2. What general types and levels of development are needed to provide for public enjoyment of the park while assuring negligible adverse impacts on park resources?
3. What should be the extent and character of the existing road systems on the islands?
4. Are the Channel Islands suitable for wilderness designation? If so, how should these areas be managed?
5. What are the appropriate visitor carrying capacities for the park? How far should visitation levels be allowed to increase and maintain the "low-intensity, limited-entry bases" required by legislation? What type of visitor use is appropriate?
6. Should more opportunities for public access be provided to the islands? What levels and types of commercial facilities and services are appropriate to support visitor uses?
7. The Channel Islands have many special, unique cultural and natural resources. What should be done if there is a conflict in how these resources are managed? Which resource takes precedence?
8. The Channel Islands landscapes have been significantly altered by past human use and livestock. To what extent should the landscapes be restored to a more natural setting? How much and where should historic ranching landscapes be maintained to preserve vestiges of the islands' ranching history?[1288]

On November 8, 2001, the park followed up with a "Notice of Intent" in the *Federal Register* and two weeks later held public meetings in Santa Barbara, Los Angeles, Oxnard, and Ventura.[1289] On April 11, 2002, the planning team met with representatives of the US Coast Guard, US Navy, Bureau of Ocean Energy Management, US Fish and Wildlife Service, National Marine Fisheries

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1287 Public Law 95-625.

1288 CINP, "General Management Plan Newsletter 1," October 2001, CINP Digital files, file:///D:/Documents/ZZ-GMP/CHIS_News1.pdf, Accessed September 5, 2018.

1289 NPS. "Final General Management Plan / Wilderness Study / Environmental Impact Statement Channel Islands National Park California." 2015, v.

Service, California Department of Fish and Game, California Office of Historic Preservation, California Regional Water Quality Control Board, Ventura County, Ventura Port District, Santa Cruz Island Foundation, and Vail & Vickers. The NPS group met separately with TNC and the Channel Islands National Marine Sanctuary officials as well.

After gathering opinions and data from all these meetings, the planning team produced a second newsletter in August 2002 that described four alternatives for the plan. Alternative A was the "no action" option required by the National Environmental Policy Act. The other three alternatives provided a mix of proposed actions that emphasized, at least in name, different purposes: "Alternative B: Emphasis Resources" extended stewardship by controlling access to large areas, protecting cultural resources, closing many roads or converting them to trails, and encouraging more research by staff and outside scholars. "Alternative C: Education/Research Emphasis" stressed visitor learning and included several education centers on the two big islands, extensive adaptation of historic structures, new campgrounds, and programs for visitor participation in archeological and marine research. "Alternative D: Encourage Use" proposed increasing recreational opportunities including bicycle and horseback concessions, vehicular tours on Santa Rosa Island, a new concession boat operation from Los Angeles, new campgrounds, and ranger-led tours to Middle Anacapa Islet.[1290]

Written responses from 91 individuals and organizations seemed to favor a mix of the different alternatives. An analysis of the comments yielded the following preferred alternative numbers: A-15, B-20, C-13, and D-17. The rest of the respondents pled confusion. Comments on specific questions about the purpose of the park, specific resources, air and sea access, terrestrial and marine recreational use, and development of more infrastructure were equally divided, reflecting the variety of public desires for the park. The planning team pondered these results and sought a combination of specific proposals from all three action alternatives. When Russell Galipeau arrived to superintend Channel Islands National Park in May 2003, he needed time to learn more about the park and its critical issues, so he slowed the planning process. The 1998 Settlement Agreement with Vail & Vickers on Santa Rosa Island called for a new special use permit in a few months. Planning and management of the eastern portion of Santa Cruz Island continued after the devastating flood at Scorpion Harbor in 1997 and acquisition of the Isthmus. Natural resources staff were monitoring Anacapa Island to determine the effect of eliminating rats from the ecosystem. The program to eliminate pigs on Santa Cruz Island was in final preparation. Recovery of the island fox and bald eagle populations were well underway and required careful monitoring. Plus, the National Park Service needed to learn more about the general public's perception of the islands and what changes in access and development, if any, they would tolerate.[1291]

Over the next five years, the park's management team plus Greg Jarvis and others of the Denver Service Center debated each of the issues to be addressed in the planned draft and gathered more data. An April 2004 transportation study conducted by David Evans and Associates and others evaluated three remaining options—A, B, and a new C. Alternative A could be ignored, so it boiled down to two real options that favored either increased resource protection or increased human use. Somewhere along the deliberative process, the enhanced education

1290 NPS, "Preliminary Alternatives," General Management Plan Newsletter 2, CINP Digital files, file:///D:/Documents/ZZ-GMP/CHIS-News2.pdf, Accessed September 5, 2018; CINP, "Public Comments from Preliminary Alternatives, Meetings, Ventura," September 18, 2002, CINP Central Files, GMP File, Folder "GMP Public Comment."

1291 CINP, "Public Comments," 2002; Russell Galipeau interviewed by Lary Dilsaver, March 9, 2018.

alternative was folded into Alternative C. The contractors looked at sea and air access to each of the islands, road use and camping on each, types of visitors to be encouraged, access for disabled persons, the distribution of visitors throughout the park, and the impact of transportation on the park's resources. The transportation study stated, "the visitation growth at Santa Cruz Island does reveal the importance of facilities and visitor access to visitation demand, and would suggest that additional improvements to on-island facilities and opportunities would likely result in further increases in island visitation." This supported the goals of Superintendent Galipeau and the National Park Service in general. By 2009, park planners officially had identified the enhanced use option (by this time titled Alternative 3) as the one they preferred. The contractors noted that Alternative 3 would have a beneficial impact on the concessioners, recommended that new companies handle land tours and concessions on Santa Rosa Island, and concluded that the small increase in overnight facilities proposed for that island and the visitor air service to it and to San Miguel Island would not cause major visitor impacts.[1292]

After the resumption of active planning, the Park Service contracted with management and technology consulting firm Booz Allen Hamilton to conduct an economic feasibility study on various proposed changes and additions to visitor use services by one or more concessioners. The consultants evaluated lodging, food services, a camp store, an island shuttle, and a horse rental service on Santa Rosa Island. For East Santa Cruz Island they studied kayak outfitting, snorkeling equipment rental, and merchandise sales as potential services. They included projected staffing, staff housing, storage, garage facilities, and utilities in their analyses. Most of the study was focused on whether one or several concessioners could financially succeed providing these services and whether they could afford to operate throughout the year or only seasonally. The consultants concluded:

> *the feasible operations from most profitable to lease [sic: least] are limited merchandise sales, snorkel equipment rental, kayak outfitting and guide services, lodging, and food and beverage; in order to be feasible, the last two services listed require that the NPS funds up-front construction costs. Based on the same parameters, the following services are not feasible as stand-alone operations, from best to the worst financial situation: camp store, shuttle service, and horse tour operations.*[1293]

They further recommended that individual concessions for these various services would not be feasible and seasonal provision of many services would be more profitable due to labor costs and visitor numbers.

The wilderness study required by the enabling act had never been initiated. The NPCA had called for such a study since 1980. During the planning period, consultation with other NPS officials, especially Regional Director Jonathan Jarvis, led to a decision to combine a wilderness study with the new GMP. Normally this would require a two-step process—a wilderness suitability assessment and a wilderness study. The suitability assessment did not need to include public input, but the wilderness study did. The park had submitted a suitability assessment that

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1292 David Evans and Associates, Inc., "Transportation Analysis Report." April 1, 2004, CINP Central Files, 1.A.2, Folder "Transportation Analysis Report," 24; CINP, "Alternative 3 Preferred Alternative," April 21, 2004, a draft showing the conflation of former alternatives C and D, CINP, Central Files, GMP Files, Folder "Alternative 3."

1293 Booz Allen Hamilton, "Feasibility Study for Concession Facilities on Santa Rosa Island and Santa Cruz Island," February 28, 2011, CINP Draft Economic Feasibility Study, 78, 88.

Regional Director John Reynolds signed and forwarded to the NPS director on April 29, 2002. However, Director Fran Mainella took no action. Planners submitted a new wilderness suitability assessment in September 2005 that Regional Director Jarvis approved and sent on. This time Deputy Director Steve Martin approved it on June 4, 2006.[1294]

The agency published a new notice of intent to prepare the combined GMP and wilderness study in the *Federal Register* on April 8, 2009 and held informational open house events at the park headquarters on June 17, 2009, and in Santa Barbara the next day. The planning team ultimately included 16 individuals from the park, DSC, and the Harpers Ferry Center, as well as 31 contributors from the Park Service and other agencies. On November 14, 2013, the park published a notice of availability for the "Draft General Management Plan / Wilderness Study / Environmental Impact Statement." The agency identified five goals for the planning effort: (1) to restore and maintain natural ecosystems and processes, (2) to preserve and protect cultural resources, (3) to provide opportunities and access for the public to experience and connect to the park, (4) to promote stewardship of park resources, and (5) to administer the park efficiently and effectively. It addressed multiple issues on all five islands as well as the mainland headquarters in Ventura Harbor. The draft plan ran to 516 pages and the agency set a comment period to end on March 10, 2014. Planners held two more public meetings on December 3 and 4, 2013, and granted two 30-day extensions of the comment period.[1295]

The Draft GMP identified six planning "issues/concerns." First, what should be done to enhance access for visitors to the islands? The primary question was whether airstrips for passenger airplanes should be improved to supplement concession and private boat access on East Santa Cruz Island and San Miguel Island. On the latter, planners sought a way to allow more visitors to see the pinniped rookery at Point Bennett. Because it requires a 16-mile round-trip hike to view the marine animals, time constraints made it sensible to reduce the access from four-plus hours each way by boat to one hour each way by plane. During planning for the 1984 GMP update, park planners briefly considered allowing planes to land at a dry lakebed two miles from Point Bennett. However, both the National Marine Fisheries Service and the California Coastal Commission opposed the idea, believing it would disturb the pinnipeds. In the 2013 Draft GMP, the preferred alternative proposed a trial program of flights to the airstrip at the island's ranch site that could facilitate more hikes to the rookery.[1296]

Santa Rosa Island is the biggest single piece of conterminous property in the park, so road access on it formed a second planning issue. The More family and Vail & Vickers widely traveled the island managing their cattle, deer, and elk. Over 150 years, they carved rough dirt roads all over the hilltops and into many canyons and beaches. Park planners needed to decide how many they would maintain and what to do with those they chose to eliminate. The decision making actually began with the end of Vail & Vickers' use and occupancy in December 2011 and continued while the final elimination of deer took place during the following years. In the interest of

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1294 Jonathan Jarvis to Chief, Administrative Program Center, January 17, 2007, attached to Russell Galipeau to Tim Setnicka, May 14, 2008, a Freedom of Information Act request, CINP, Central Files, 9.C., Folder FOIA (General).

1295 NPS, "Record of Decision General Management Plan / Wilderness Study / Environmental Impact Statement" September 2015; NPS. "Draft General Management Plan / Wilderness Study /Environmental Impact Statement Channel Islands National Park California," 2013.

1296 NPS, "Draft General Management Plan," 2013, 131; CINP, "Environmental Assessment for Regulation of Airstrips on San Miguel Island Channel Islands National Park," December 1983, CINP, Central Files, GMP Files, Folder "GMP-in park reference materials"; Rodney McInnes to William Ehorn, April 6, 1984, Ibid; James W. Burns to William Ehorn, April 17, 1984, Ibid.

resource protection, the park staff wanted to close a number of roads and convert others to trails. The preferred alternative explained that 67 miles of roads on the island would be cut to 44 miles but did not specify which roads would be kept and which would be converted to trails or restored to natural conditions. The planners also dropped the idea of horseback riding on this or any other park island.[1297]

Figure 10-9. Vail & Vickers and their predecessors on Santa Rosa Island carved out roads to many parts of the island predominantly following the crests of the hills. The 2016 General Management Plan calls for a number of them to be closed.

Source: Photograph by L. Dilsaver, October 2017.

The third issue underpinned all the others—what type and balance of developments should be provided for visitors while continuing to protect park resources. Park planners had to decide where to add camping, other types of lodging, more hiking trails, and recreational activities as well as the level of staffing and logistical support necessary to maintain them. During the comment period and in the public meetings most of the past and potential visitors favored "keeping the islands as they are," while others wanted more recreation opportunities. The park favored adding 45 "camper nights" to bring the total to 450, redesigning the campgrounds on Anacapa Island, Water Canyon on Santa Rosa Island, and Scorpion Valley on Santa Cruz Island, and adding new ones at Smugglers Cove and Prisoners Harbor on Santa Cruz Island and at Bechers Bay and Johnsons Lee on Santa Rosa Island. Superintendent Galipeau also wanted some form of visitor lodgings at Bechers Bay by adapting the old Vail & Vickers ranch structures. He reasoned that preservation of the largest concentration of historic buildings in the park would be facilitated by their adaptive use. That facility would also become the center for enhanced visitor amenities such as a food concession and vehicular tours of the island. It

1297 NPS, "Draft General Management Plan," 2013, 131-32.

would also help sustain park administration in a more efficient manner, the fourth issue/concept of the GMP process. On East Santa Cruz Island the park wanted a kayak concessioner at Scorpion Harbor and an education center at Prisoners Harbor. On the mainland, the visitor/education center would be expanded and some administrative and maintenance operations would be relocated in Ventura Harbor.[1298]

The fifth issue was the suitability of the islands for wilderness status. This had implications not only for the other issues listed above, but also for myriad ongoing programs in the park. Initially, Superintendent Galipeau had some reservations about including a wilderness proposal but he agreed with Regional Director Jarvis that status as a designated wilderness was the best way to minimize the development footprint. However, Galipeau and his staff raised questions and urged more research before the National Park Service should ask Congress to pass a Channel Islands wilderness bill. First, would wilderness prevent using mechanized vehicles and motorized equipment to carry out the I&M program? Would it halt the use of roads to implement ecological restoration? Would it apply to using radio tracking equipment to research island fauna? If "one dirty fishing boat" wrecked on a wilderness coast and accidently released a pregnant rat onto an island, would the National Park Service be able to act immediately or have to go through a detailed and lengthy review process to justify using the tools necessary to act in wilderness?

Galipeau later explained that a response to such an event would have to be carried out within 48 hours because, beyond that time, it becomes exponentially harder to find the rodent. In a year, one pregnant rat could become 100 rats. How would the park respond to a future oil spill? All of these questions revolved around the potential legal ramifications of insistence by an environmental organization that the park must adhere strictly to the 1964 Wilderness Act. Despite these misgivings, both Alternatives 2 and 3 proposed wilderness status for almost all of Santa Barbara Island, all of West and Middle Anacapa Islets, 99% or 50,901 acres on Santa Rosa Island, and 97% or 14,476 acres of the NPS property on East Santa Cruz Island. The total wilderness acreage would be 66,675 acres or 53% of the land within the park boundary. Although the NPS property would be 98% in wilderness, ownership of western Santa Cruz Island by TNC and San Miguel Island by the US Navy diminished the overall percentage. The final issue that the GMP addressed was climate change. This was speculative but needed to be addressed in a plan that was projected to shape management policy for 20 years.[1299]

During the comment period the park received 1,091 written responses. Those, combined with the comments offered during the December 2013 public meetings, allowed park planners to learn much about the public's reaction to its proposals. First, most people strongly indicated that they considered the boat trip to be part of the experience. On Santa Cruz Island, park planners also found that the number of visitors to this most popular portion of the park already had reached a level consistent with the stipulations of the enabling act for "limited visitor impact." The campground held 240 people which the Island Packers boats could bring. In addition, the distance from the main development area at Scorpion Harbor to the old airfield at Smugglers was too far and would require extensive infrastructural upgrades and, possibly, a shuttle service. Use of the Smugglers airstrip had been terminated in the early 2000s because boat service to the island was sufficient for the park's and visitors' needs. Although private pilots and others disputed these findings, the park dropped the idea of an air service to East Santa

1298 Ibid., 129, 132-37.

1299 Ibid., Galipeau interview, March 9, 2018.

Cruz Island. On the other hand, the reaction to the proposed air service to San Miguel Island was generally supportive.[1300]

Second, the preponderance of public opinion opposed any expansion of the development footprint. In response, the National Park Service scaled back draft plans for concessioner accommodations on East Santa Cruz from 18 to 12 with most of them in seasonal tents. However, the planners broadened the area zoned as front-country at Prisoners Harbor to accommodate more visitors to the isthmus section of the island. On Santa Rosa Island changes from the draft plan included shifting the user capacity from 500 people at Bechers Bay to that number for the entire island. Lodgings at the ranch area were changed to be only rustic, economy accommodations. The park staff decided to convert the road system from one that circled the island to one that had three spokes reaching different habitats and historic sites. Some of the remaining roads would serve patrol and maintenance purposes. The rest would be converted to trails or restored to natural conditions. For visitors, the final plan proposed a shuttle system on the island that would go to three locations—Torrey Pines, Lobo Canyon, and Johnsons Lee, with drop-off points along the way. Planners also suggested three possible locations for a proposed research center including one at the ranch area where development already existed.[1301]

The proposal for wilderness also changed dramatically. It had been opposed by many respondents as an unnecessary legal burden on visitors. One letter began with the following:

> *We, the undersigned, unanimously oppose wilderness designation within Channel Islands National Park for good reason. There is neither compelling justification nor valid usefulness to be gained by such a designation. A wilderness designation is, in fact, detrimental to our businesses and to the public whom we serve. The islands do not qualify. Before you read this letter, please look at who it is from.*[1302]

"Who it was from" were the owners or leaders of Aspen Helicopters, Channel Islands Aviation, the Santa Cruz Island Foundation, and Timothy Vail. The first two presumably thought wilderness status would impinge on their businesses by decreasing visitation. Marla Daily of the Foundation, saw maintenance and interpretation of the historical resources on the islands threatened by limited access. Timothy Vail no longer had any ownership on any island but wanted his family's legacy protected and still deeply resented the National Park Service. They challenged the idea that the islands qualified as wilderness and were insulted that they were not consulted properly during the planning process when they collectively had 265 cumulative years of experience on the islands. They wanted more visitors, not fewer. Ironically, that is what the National Park Service was trying to accomplish through this GMP. [1303]

Some among the public questioned whether islands used for grazing and military purposes qualified for wilderness designation. Others thought the islands were already like wilderness because of the difficulty of accessing them and the absence of any settlement. They wondered if giving it legal status was really necessary. Citing NPS policy, Galipeau answered that wilderness

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1300 NPS, "Record of Decision for CINP GMP," 2015.

1301 Ibid., Russell Galipeau interview, 2018.

1302 Charles McLaughlin, Mark Oberman, Michael Oberman, Santa Cruz Island Foundation, and Timothy Vail to Greg Jarvis, March 3, 2014, CINP Digital Files.

1303 Ibid.

is not about the past, but is in fact a goal to reach.[1304] The final plan proposed 66,576 acres of wilderness and potential wilderness. The wilderness portions included 639 acres of wilderness for Santa Barbara Island, 620 acres on West and Middle Anacapa Islets, and 39 acres of various offshore rocks. The 14,476 acres on East Santa Cruz Island and 50,802 acres on Santa Rosa Island, remained potential wilderness due to "several continuing nonconforming uses" that would have to terminate before a recommendation could be tendered to Congress. From a management standpoint, it did not matter because, in accordance with NPS wilderness policy, both areas would be protected from development as if they were already designated as wilderness. In 2020, no official wilderness proposal has been submitted to Congress.[1305]

The plan also included several proactive policies including biosecurity protocols to prevent the introduction of nonnative species to the park, mitigation measures to protect a maternity colony of Townsend's big-eared bats that roosted in Scorpion Valley on Santa Cruz Island, and a commitment to cooperate with the Channel Islands National Marine Sanctuary, the National Marine Fisheries Service, and the State of California in determining whether anchoring by private boaters damaged marine resources and should instead moor to environmentally sensitive devices.

The final issue that the GMP addressed was climate change. The final plan summary stated:

> *The Park Service recognizes in this plan that climate change is a far-reaching and long-term issue that will affect the park, its resources, visitors, and management throughout the timeframe of the plan and beyond. The plan notes the need for increased focus on sustainable design and development to reduce emissions of greenhouse gases, to encourage scientific studies to predict potential changes to the park, and to identify and pursue adaptive strategies to ensure the resilience of Channel Islands National Park to expected impacts from sea level rise, coastal erosion, higher storm surges, weather changes, and possible wildfires. The continued ecological restoration efforts on the islands will aid in ecosystem resilience against the impacts of climate change.*[1306]

On September 14, 2015, Acting Regional Director Martha J. Lee signed a final Record of Decision approving the Final GMP/EIS and its preferred Alternative 3.[1307] After completion of the GMP, the park released a "Foundation Document" in 2017 as part of a systemwide initiative. It contained sections on the purpose and significance of the park, its fundamental resources and values, interpretive themes, management mandates, and planning and data needs. The latter included a wilderness and backcountry management plan, a Scorpion Valley site plan, a visitor use management plan, a comprehensive interpretive plan, a resource stewardship strategy, a strategic plan, and an operations and safety plan. In essence, the document provided a context for the GMP in fewer than 35 pages.[1308]

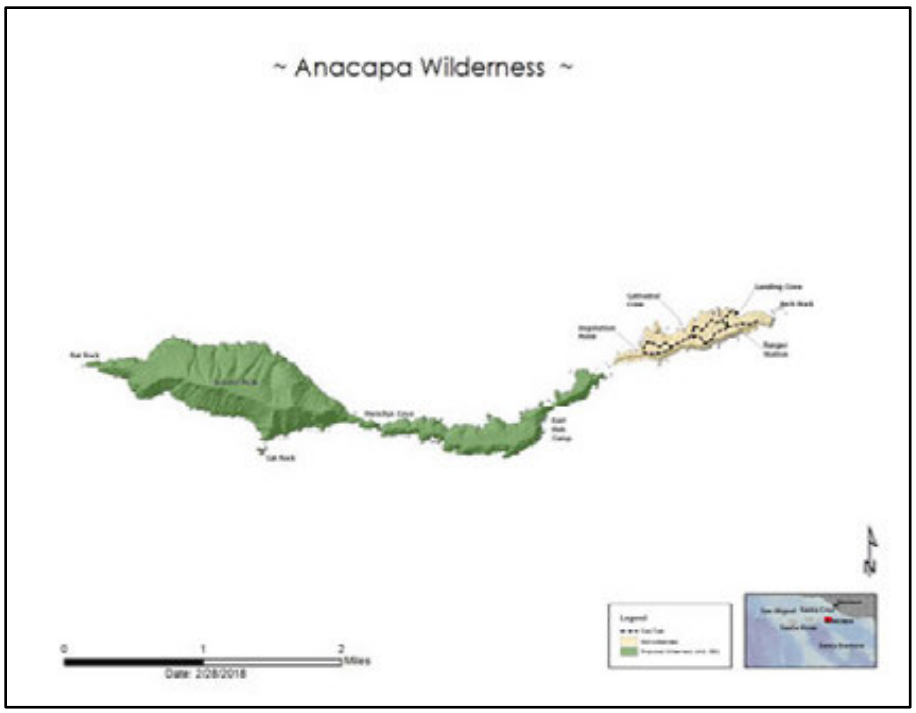
1304 Russell Galipeau interview, 2018.

1305 NPS, Final General Management Plan, 2015, 48-54, 137.

1306 NPS, "Final General Management Plan," 2015, ix-x.

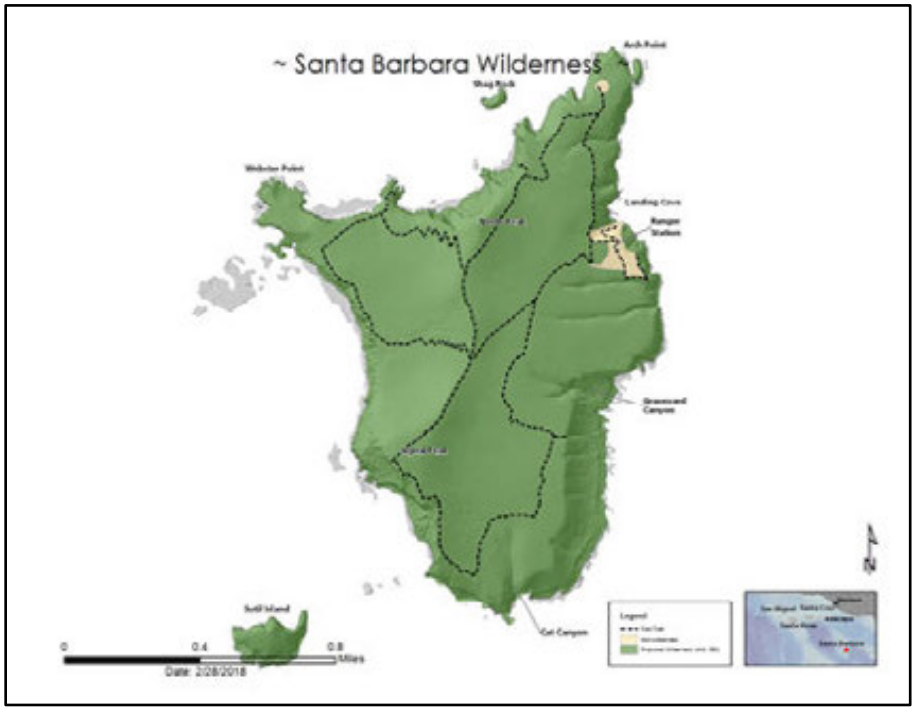
1307 NPS, Record of Decision, 2015.

1308 NPS, "Foundation Document Channel Islands National Park," Department of the Interior, February 2017.



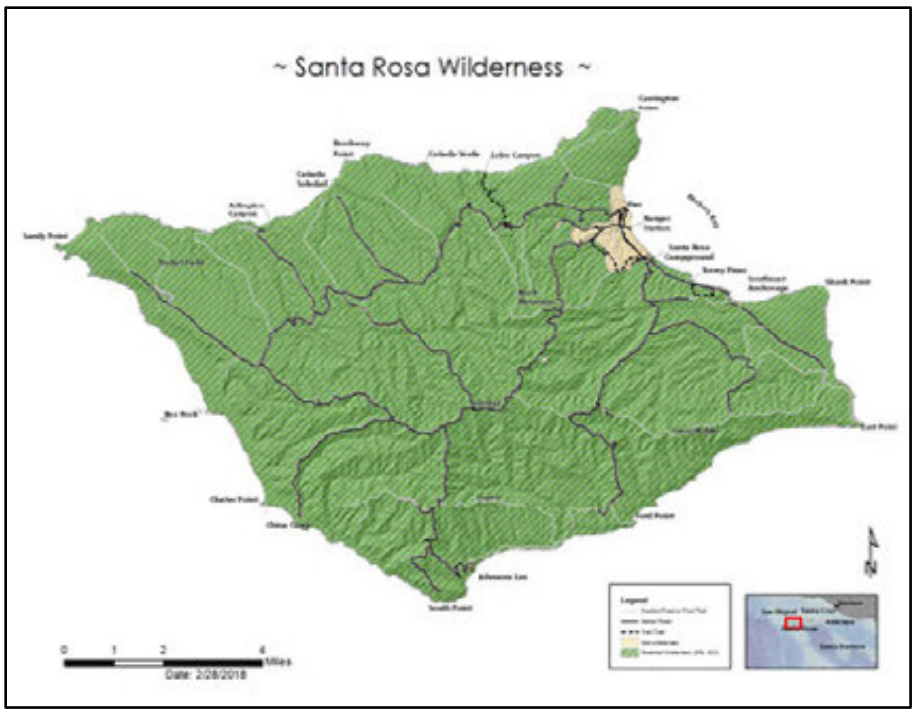
Map 10-2. Proposed wilderness for Anacapa Island. The park proposes less than half of the total acreage of the five islands for wilderness status. It does mean, however, that most of Anacapa, Santa Barbara, and Santa Rosa Islands will be managed as if they were already designated wilderness.

Source: Cartography by Rockne Rudolph, Channel Islands National Park, February 2018.



Map 10-3. Proposed wilderness for Santa Barbara Island.

Source: Cartography by Rockne Rudolph, Channel Islands National Park, February 2018.



Map 10-4. Proposed wilderness for Santa Rosa Island.

Source: Cartography by Rockne Rudolph, Channel Islands National Park, February 2018.

Map 10-5. Proposed wilderness for East Santa Cruz Island.

Source: Cartography by Rockne Rudolph, Channel Islands National Park, February 2018.

MANAGING VISITORS ON THE ISLANDS

Unlike many national parks, access to Channel Islands National Park can be challenging due to weather conditions in the Santa Barbara Channel and the cost and time involved in boat or air service to the remote islands. Not only do several of them, such as San Miguel, Santa Rosa, and Santa Barbara Islands, require long boat journeys for day trips, their rocky terrain and sometimes rough sea conditions complicate access. For an archipelago so near 20 million people it receives very few tourists, even fewer campers, and none of the auto-borne sightseers so common in other California national parks. Many who do come arrive in private boats and are unrecorded. With an island staff remarkably short of adequate for five islands and 250 million acres of territory, the park recognizes the importance of using technology to fulfill its mission of welcoming and educating the public. Concessioner Island Packers offers barely a dozen trips annually to San Miguel Island and the approach to Santa Barbara Island is dangerous for the public owing to the destruction of its landing facility by a recent winter storm.

The US Navy Closure of San Miguel Island

The US Navy bombed around San Miguel Island as late as the 1980s. Its 1976 agreement with the NPS had allowed rangers to shepherd limited numbers of visitors to Point Bennett along a trail that followed the World War II-era road and to a few other locations near Nidever Canyon. Before that time, the navy had swept for ordnance twice. Between those sweeps, few items were found, perhaps because sand and vegetation covered them. During the 1980s, US Navy Explosive Ordnance Disposal (EOD) Teams investigated objects that looked threatening. Several were practice bombs, but one was a 250-pound general purpose bomb that an Explosive Ordnance Disposal team blew up in August 1982 near Hoffman Point.[1309]

Then in early 2014, a vegetation mapping crew came across a large, cylindrical metal object. The navy sent an Explosive Ordnance Disposal crew to investigate and they determined the object was not a piece of ordnance. The find, however, alarmed Naval Base Ventura County Commander Larry Vasquez. The previous November, the park had sent a copy of its Draft Environmental Impact Statement for the new GMP to the navy among others. The draft included a proposal to open public access to a small airstrip and spike camp on a dry lakebed two miles from Point Bennett. It would allow visiting hikers to travel only four miles round-trip to see the pinnipeds rather than 16 miles. Captain Vasquez found that camping on San Miguel Island had never been authorized in the Memorandum of Agreement between the National Park Service and the US Navy. The last update to the MOA had been in 1991. In it the agencies agreed that since it had been 28 years since the original agreement, they should negotiate a new agreement by the end of that year. Nothing happened during the administrations of Superintendents Mack Shaver and Tim Setnicka. Superintendent Russell Galipeau tried to update it between 2003 and 2014 after each change of command at Naval Base Ventura County, but found the navy disinterested. By 2014, more than two decades had passed since the updated MOA called for a complete revision.[1310]

1309 Ian Williams, Mike Hill, Rob Danno, Reed McCluskey, Mike Maki, Bill Ehorn, and Ann Huston, "The Administrative History of San Miguel Island: The National Park Service on San Miguel from 1963 to 2016," *Western North American Naturalist* 78(4), 2018, pp. 1-20.

1310 Ibid.

On April 7, 2014, Captain Vasquez closed San Miguel to both the public and Park Service personnel because of his concern over unexploded ordnance (UXO). He insisted that only rangers and researchers with UXO safety training be allowed back on the island, that the National Park Service request to negotiate an agreement to "properly document use of the island," and that within 30 days the agency initiate a process with the navy to design a new resource management MOA for San Miguel and Prince Islands. The former would remain closed to the public until a UXO survey could be completed. Eleven days later, Superintendent Galipeau responded with official requests for the island use agreement and the new MOA process, but also expressed his reservations about Vasquez's decision. In writing, he regretted the closure's inconsistency with NPS requirements to follow federal laws such as the Endangered Species Act and NAGPRA. He also warned about the public reaction to closure of the island. He requested that the navy notify the public, post signs on the island forbidding trespass, place personnel on the island to protect NPS infrastructure, and deal directly with NOAA's Marine Mammal Station near Point Bennett. Finally, he stated," we are very disappointed that a more collaborative approach was not considered or taken with this closure."[1311]

The reaction of the public was predictable. By July, three months had passed and no action had been taken by the navy. Congress members Lois Capps and Julia Brownley wrote to ask what the delay was about, blamed the navy for the financial and cultural impacts of its closure, and urged it to expedite its risk assessment to get the island back to management by the National Park Service. The latter, they stated, had an "impeccable safety record." They suggested that the navy allow visitors back to parts of the island it had already assessed as soon as possible while the rest of the survey continued. The California Coastal Commission insisted that the navy coordinate its island assessment with the Coastal Zone Management Act which the military disputed. The California Coastal Commission strongly rebuked the navy for that attitude.[1312] These criticisms were minor compared with the media-reported public responses in Southern California. The *Santa Barbara Independent* reported:

> *Captain Lawrence Vasquez and Naval Base Ventura County have yet to take the first step in that process — securing around $250,000 to $500,000 in internal funding to prepare for and conduct their security sweeps. That lack of movement, coupled with relative radio silence from military brass around the open-ended closure timeline, has (sic) roused the ire of some and the curiosity of many who've asked why, after decades of ranchers, rangers, scientists, and hikers tromping around the 14-square-mile archipelago without incident, the Navy is suddenly so nervous about public safety, and why Vasquez won't elaborate on the "grave concerns" he obliquely referred to in his April 14 (sic) letter announcing the closure.*[1313]

Marla Daily of the Santa Cruz Island Foundation was particularly incensed. She accused him of ignorance of San Miguel Island's history, or that he "could be vying for a promotion, or simply suffer from a Napoleon complex and be flexing against the NPS proposal."[1314]

1311 L. R. Vasquez to Russell Galipeau, April 7, 2014, CINP, Superintendent's File, Folder "Navy"; Russell Galipeau to L. R. Vasquez, April 18, 2014, Ibid.

1312 Charles F. Lester to C. L. Stathos, September 5, 2014, Ibid.

1313 Lois Capps and Julia Brownley to Captain Lawrence Vasquez, July 11, 2014, Ibid., Tyler Hayden, "San Miguel Closure Irks Officials," *Santa Barbara Independent*, July 15, 2014.

1314 Tyler Hayden, July 15, 2014.

Finally, during October 2014, a team of UXO technicians conducted metal detector surveys of the trails, airstrips, developed areas, and off-trail routes regularly used by researchers. Team members surveyed 182 miles of track line that covered less than 1% of the island's surface. They found no live ordnance but recovered several practice bombs. In general, all parties were relieved that so few items were found and that nothing explosive had been discovered. It still took another 18 months to complete a series of required studies and agreements, including an Environmental Condition of Property Survey, a Land Use Control Implementation Plan, a Realty Agreement, and a new MOA. Prior to reopening the island, a permit system was developed under which visitors and nongovernment personnel have to sign a liability waiver to visit the island. In June 2015, Captain Vasquez left Ventura for a new command and Captain Chris Janke became the new commander of Naval Base Ventura County. He and Galipeau signed a new "Land Use Control Implementation Plan" by October 1, 2015, and visited San Miguel to inspect the island in December. By May 2016, the last of the required agreements were signed, and on May 17, 2016, San Miguel Island reopened to the public. By the end of that year, 211 people had received UXO safety training.[1315]

Problems with Piers

Piers and docking facilities have been both a necessity and a problem for the National Park Service at Channel Islands throughout the years. Bringing virtually all materials and workers to the five islands from the mainland requires suitable boats and poses great expense. Each and every operation is far costlier than that faced by any land-based park in the conterminous United States, no matter how distant it may be from an urban center. Huge expenses are borne by constructing and maintaining piers on two of the islands—Santa Cruz and Santa Rosa—as well as the docks on Anacapa and Santa Barbara Islands and at Ventura Harbor. Planning for maintenance and replacement of these structures now requires planners to analyze the pace of sea level rise and design accordingly. At one time or another the National Park Service has maintained five piers or docks on the four islands. These structures face deterioration from immersion in saltwater, weathering by wind and wave movement, and powerful storms that can batter them to pieces. Several require cranes and must be able to load and unload heavy equipment and vehicles. All must be safe for visitors. Inspections are a constant priority and replacement or closure is immediate if unsafe conditions appear. Winter storms have wrecked a number of them whereupon the public has clamored for their rapid replacement. Only San Miguel Island does not have a pier. Ownership by the US Navy and an agreement to limit visitation and infrastructure by the Park Service have countered calls for a pier at Cuyler Harbor on the most distant of the park's islands.

The difficulty of providing adequate landing facilities was brought home to the park during the winter of 2015–16 when storms destroyed the facility on Santa Barbara Island. It previously had been wrecked in a 1983 storm and replaced by park staff a year later at a cost of approximately $150,000. As of January 2019, the park has completed an engineering assessment with multiple options and has requested funding for replacement of the wharf, crane, and dock building. Although large vessels are unable to use the dock due to the absence of fender piles, the island is

1315 Ian Williams et al., "The Administrative History of San Miguel Island."; CINP, "National Park Service Report to the Navy, San Miguel Island 2016," CINP Digital files.

still accessible via skiff using the rock ledge adjacent to the pier. The park plans to build a lower landing on the existing pier in 2020 to allow for safer skiff operations.[1316]

On February 28, 2002, the California State Lands Commission approved the park's "Application for Existing Facilities Offshore Anacapa, Santa Barbara, Santa Cruz, and Santa Rosa Islands, Santa Barbara and Ventura Counties." State control of the three miles nearest the shore required the park to get its permission to operate, maintain, and erect landing facilities on the islands. The application addressed use and maintenance of docks and mooring buoys at Anacapa and Santa Barbara Islands, at Bechers Bay on Santa Rosa Island, and at Scorpion Harbor on Santa Cruz Island. The California State Lands Commission also assented to the reconstruction of the pier at Prisoners Harbor.[1317] The National Park Service had received the Isthmus donation from TNC in 2000 and needed to honor its commitment to repair or replace the abandoned navy pier with one it would maintain. The National Park Service constructed a new pier on the footprint of the old one at a cost of just under $500,000.

The pier at Bechers Bay required NPS reconstruction after the agency purchased Santa Rosa Island from Vail & Vickers in 1986. Park staff rebuilt the pier in 1987 to a standard capable of handling the continuing cattle operation, plus use by visitors and the National Park Service, as described in chapter five. In the meantime, the park requested funds and began planning for a replacement pier that would meet current engineering standards. The John S. Meek Company completed construction of the new pier at Bechers Bay in 2011. The resulting structure was constructed of steel on two levels with a crane and a "pod" to address accessibility and cost $12,706,758. It is higher than the pier it replaced to account for anticipated sea level rise. At 600 feet in length, it is the most imposing and useful of all the marine infrastructure on the park islands.[1318]

Anacapa Island's pier is beset with problems because of several natural features. First, East Anacapa is a tableland perched high above sea level. Second, the Landing Cove area is a narrow cleft in the cliff face that is exposed to northwest winds and seas and can receive wave action dangerous to boats. The skilled Island Packers boat captains must keep an idling craft's stern in position abutting the narrow dock so visitors may climb a ladder, one by one, to visit the island. The NPS boat also uses this "live boating" technique which requires the captain to maneuver the vessel next to the pier while adjusting for the currents and swell. Loading and off-loading are complicated procedures involving virtually all gear being passed, either by crane or from people on the boat to those on the dock and vice versa. Failure of the historic island crane in 2010 resulted in it being taken out of service due to structural deterioration. Loss of the crane has required park staff to carry all supplies from the dock up the 157 stairs to the top of the island since that time. A new two-crane system is scheduled for funding and construction in 2020. This will reduce the need to pass gear over the rail. Heaving waves and boat decks make boarding and disembarking a craft dangerous.

In 2013, despite a relatively calm sea, a worst-case scenario took place when a park volunteer boarding the boat fell off the ladder on the dock into the water, and was killed. The cause of the

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1316 CINP, "Facility Management Software System (FMSS)—CHIS," August 3, 2017, provided by Mediterranean Network FMSS Specialist; comment from Kent Bullard to Ann Huston, March 19, 2021; e-mail from Sterling Holdorf to Ann Huston, April 23, 2020.

1317 Robert Lynch to Tim Glass, March 4, 2002, CINP Digital Archives, file:///D:/Documents/Writing%20CHIS/Piers/State%20Lands%20Permit%20WPRC%208390.9%209.19.02.pdf.

1318 Facility Management Software System, 2017; PMIS electronic record 27026.

volunteer's fall is unknown but the man may have blacked out or suffered a heart attack before falling. Shortly thereafter, the National Park Service implemented severe safety procedures to guard against a repeat of the tragedy, including a mandatory regulation that all passengers on deck must wear personal flotation devices. A fatality in a park is a traumatic situation that calls for extraordinary measures to prevent another episode. Channel Islands immediately began planning to reconstruct the landing facility at Anacapa's Landing Cove to have visitors move from ship to shore without the need for a ladder. By October 2015, the park released for NEPA review a plan that calls for removing the dock and building a new steel wharf, adding another tie-up to the stern of the boat, and a platform that can be raised or lowered so that visitors from the Island Packers boat can easily embark or disembark. Construction is due to begin in 2021 at a cost currently estimated to be $5,800,000.[1319]

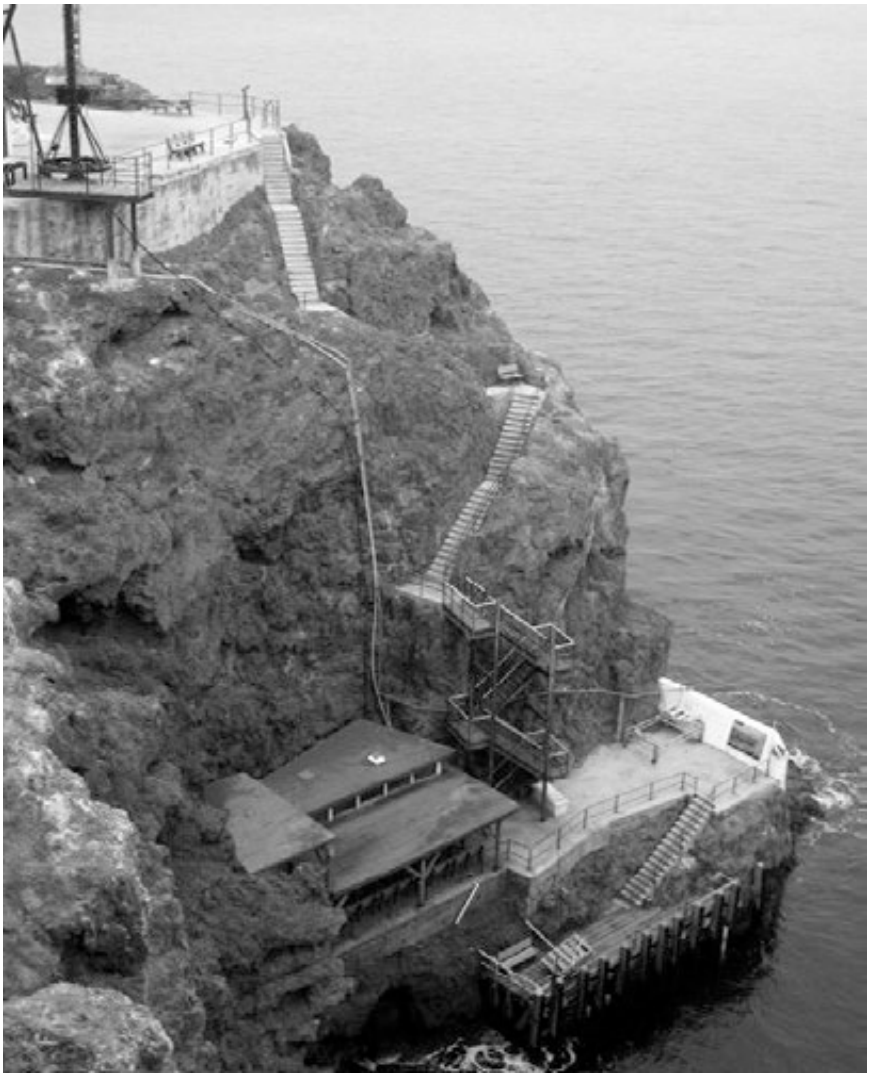

Figure 10-10. The pier at Landing Cove on the north side of Anacapa Islet is the second-most visited access to the park's islands.

Source: Photograph by Bill Ehorn, December 2008. CINP Digital Image Files.

1319 Ibid., Sterling Holdorf interviewed by Lary Dilsaver, August 28, 2018.

Figure 10-11. An Island Packers boat, the *Vanguard*, holds its position in the Landing Cove at Anacapa Island as crew members disembark passengers one by one. The visitors then begin their climb up the stairs to the East Anacapa Islet plateau.

Source: Photograph by L. Dilsaver, June 2017.

Another planned replacement is in the works for 2020. Scorpion Anchorage on Santa Cruz Island has the highest number of visitor arrivals of any part of the park. Lacking a dock or pier when the park acquired the final quarter-interest ownership of East Santa Cruz Island in 1997, the park maintenance staff constructed a pier in the harbor in 1998 by building concrete abutments and laying a flatbed railcar across them. By 2015, the railcar had corroded to the point that it was unsafe. The park installed a temporary fix, while completing planning and design of a replacement pier and carrying out the environmental compliance. The park's Scorpion Pier Final EIS states:

> *The existing pier structure requires visitors to climb ladders above pitching and shifting seas and is located in water that is too shallow for NPS or concessioner boats to safely approach or dock when tides are low or when wave heights are greater than 1 or 2 feet. The planned improvement project is to replace the existing pier so that it provides safer and easier access for the public and NPS staff, provides adequate water depth for concessioner and NPS vessels, and meets basic administrative functional requirements.*[1320]

1320 CINP, "Final Environmental Impact Statement-Scorpion Pier Replacement, April 2017," https://parkplanning.nps.gov/document.cfm?parkID=292&projectID=45488&documentID=89919 Accessed November 15, 2018.

This EIS offers three alternatives: No Action; Alternative 1, which would replace the existing pier in the same location and make road improvements; and Alternative 2, which would construct a new replacement pier south of the existing location and make minor road improvements. It also proposes mitigation measures to minimize the adverse impacts from construction or operation of the alternatives where such impacts may occur. Road improvements would be more extensive under Alternative 1. Construction of the new pier was scheduled to begin in November 2019 and be completed in 2020 at a cost of $15,000,000.[1321]

The limited lifespans of these facilities present the National Park Service with an ongoing expense that taxes the park's budget and maintenance workforce. Even the Ventura Harbor docks required more than $860,000 to repair in 1998. The park is special because of its secluded islands and remarkable resources, but there are difficulties and costs to preserve and showcase them.[1322]

New Concessions Offer Recreation Opportunities

As early as 1988, park rangers noted the growing popularity of sea kayaking at and around the islands.[1323] The sea caves on Anacapa and Santa Cruz Islands have always intrigued boaters, and kayaking became an attractive way to explore them as well as the coastlines and marine portion of the park. While park visitors could transport their own kayaks to the islands via Island Packers or their own boats, these options limited visitor opportunities to enjoy the activity. The park began to offer guided sea kayak tours at Scorpion Harbor on Santa Cruz Island to the public in 2006 through commercial use authorizations with three local companies.[1324] Park officials provided space in the campgrounds for the kayak guides to set up their sleeping and cooking facilities. The guides met their clients at Scorpion Harbor as they arrived on Island Packers boats. But the kayaks had to be brought along from the mainland for the tours. This proved to be time-consuming and burdensome for the kayak guides, the visitors, and Island Packers. In response, the park provided space on the south side of Scorpion Creek for the companies to store a limited number of kayaks. With authorization of the GMP, Channel Islands advertised a concession opportunity for guided sea kayak tours at Scorpion in 2017. Thereafter, the National Park Service signed a 10-year contract with Santa Barbara Adventure Company. In addition to sea kayak tours, the company is authorized to rent snorkel gear and provide snorkeling tours.[1325]

Based in Santa Barbara, Truth Aquatics held a concession contract with the park from 1998 to 2009 to provide regularly scheduled boat transportation to the islands from Santa Barbara, similar to that provided from Ventura and Oxnard on Island Packers. This business model proved unsuccessful, and from 2009 to 2019 the company operated multiday trips to the islands through a commercial use authorization with the park.[1326] These trips allowed visitors to spend several days aboard a boat, anchoring and going ashore at the various islands with a guide. Truth

1321 Ibid., Sterling Holdorf communication to Laura Kirn, October 17, 2019.

1322 Facility Management Software System, 2017.

1323 Superintendent's Annual Report for 1988 (March 8, 1989), CHIS Archives, Cat. 13117, Box 1, Folder 8.

1324 CINP digital concessions records, per Trish Buffington to Ann Huston, June 14, 2019.

1325 Ibid.

1326 CINP digital concessions records, per Trish Buffington to Ann Huston, June 14, 2019.

Aquatics also offered single-day and multiday diving, snorkeling, paddle boarding, and kayaking trips around the islands.[1327]

In the early morning hours of September 2, 2019, the Truth Aquatics vessel *Conception* was at anchor in Platt's Harbor, only 20 yards off the shore of Santa Cruz Island. Around 3:15 a.m., the crew of the *Conception* awoke to find the vessel on fire. The crew was able to report the emergency to the US Coast Guard, but the growing flames forced the five crewmembers to jump into the water with 34 people remaining onboard the fully engulfed boat.

The ensuing emergency response included over 30 local, state, and federal agencies, managed under a unified command structure. During three days of heavy winds and high seas, the multi-agency, multi-discipline responders recovered the remains of all 34 victims. A review of maritime accidents on the Pacific Coast would find that this was the worst in decades.

Park staff quickly worked to coordinate response efforts, quantify and mitigate any potential resource damage, assist with media and public inquiry, as well as provide invaluable local area knowledge. The park's *Ocean Ranger* played a key role on scene by providing a coordination, communications, and data network platform that was critical due to the remote location and sheer volume of victims and evidence. NPS divers on scene performed searches, assisted with recovery efforts, and provided invaluable local knowledge and leadership.[1328]

The *Los Angeles Times* subsequently reported, "The National Transportation Safety Board's preliminary report found that the entire crew was asleep before the blaze was discovered, and the *Conception* did not have a roaming night watchman, as required by the US Coast Guard for vessel certification." Lawsuits have been filed, the full investigation is expected to last for at least a year, and Truth Aquatics ceased operations of its other boats by October 1, 2019.[1329]

ISLAND VISITATION

During the earliest days of Channel Islands National Monument nobody kept records of visitors because nobody regularly patrolled the two islands. When the National Park Service began collecting visitation statistics they primarily counted those hardy people who came to Anacapa Island. In 1963, 1,200 people visited the island primarily on private boats. A few tied up at Santa Barbara Island but by 1966 the total visitation there for the summer season was only 300 persons. From that paltry start, Channel Islands has increased visitation fitfully. In 1976, monument officials estimated 92,600 visited the unit. Two years later the figure dropped nearly 50% to 46,416. Two years after that, in 1980 when Congress established the national park, it reached a milestone with 104,574. Curiosity abounded with designation of the park and by 1983, more than 205,000 visitors came to the park. Visitation plateaued at just under 200,000 until 1995 when another big jump pushed the figure for visitation to 525,882, a 200% increase over the previous year. The number of park visitors remained well over 400,000 for the next decade, peaking at 613,295 in 2002. Then, as both East Santa Cruz Island and Santa Rosa Island opened

1327 Truth Aquatics website, https://www.truthaquatics.com/, accessed June 18, 2019.

1328 Above information from CHIS Unit of Excellence Nomination Narrative (03.23.2020).

1329 "California boat fire: Truth Aquatics suspends all operations amid investigation," *Los Angeles Times*, October 1, 2019. https://www.latimes.com/california/story/2019-10-01/california-boat-fire-operator-suspends-all-operations-amid-investigations.

up, park officials recorded a freefall in numbers to only 212,029 in 2013, barely 35% of the 2002 record. Since that time, the figures have partially rebounded to average approximately 350,000 each year.[1330]

At first glance, this roller-coaster statistical ride appears mysterious. The numbers for the national park system as a whole show a steady increase with a few slight downturns of no more than 5% from one year to the next. The answer lies in the varied ways visitors are counted or not counted. In a typical year, park officials or volunteers record visitors on the islands, those who enter the visitor center in Ventura, and estimate the boats within the one-mile shoreline of the islands multiplied by a passenger constant. Of the three, the visitor center numbers are the most consistent while the figures for boats are the least reliable. Gary Davis reported:

> *The park developed a boating census protocol as part of the vital signs monitoring program. It was based on a regression model of aerial surveys related to daily counts of boat in anchorages at Anacapa, Santa Barbara and Scorpion Anchorage. As I recall, it was implemented by island ranger staff in the mid-1980s for several years, but fell out of favor and was abandoned because it required daily anchorage boat counts and accurate visitation estimates were not valued enough to revise or continue the protocol.*[1331]

Island Packers carefully records its passengers as do the air carriers, but private boats come and go on whim through day and night and are far more complicated to enumerate. Patrols by the National Park Service, the California Department of Fish and Wildlife, and the Coast Guard are few and sporadic. Air surveys are expensive and even less frequent. Therefore, counting them depends on island rangers who already busy with visitors arriving by concessioner, patrolling for safety and law enforcement, and conducting interpretation activities. Chief of Interpretation Yvonne Menard reported that she has repeatedly urged more attention to collecting visitation numbers because it strongly influences appropriations for the park, but the ranger staff did not consistently submit statistics over many years. The interpretive staff were left to use the Island Packers figures for recording island visits but these numbers did not accurately reflect campers on island or account for private boaters. Campers account for about half of the visitation on Santa Cruz Island and more than half on Santa Rosa Island.[1332]

For most of the early years, Anacapa Island received the largest percentage of the visitors. However, after final acquisition of East Santa Cruz Island in 1997, it has drawn at least 85% of the visitors that travel to the islands with Island Packers. For example, the concessioner carried 77,835 passengers total in 2017 with 65,236 going to Santa Cruz Island, 7,550 to Anacapa island, 4,108 to Santa Rosa Island and only 241 to San Miguel Island. The latter is so distant that it takes almost four hours each way to get there and back. As a consequence, Island Packers ran only 13 trips there during the entire year. However, on May 25, 2016, Channel Islands Aviation inaugurated its public flight program to San Miguel Island landing at the airfield by the ranger station. It was hoped that the service would benefit those who wish to do a day trip to Cardwell

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1330 NPS, "National Park Service Statistical Reports, 2018," Accessed December 11, 2018. https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Park%20YTD%20Version%201?Park=CHIS

1331 Gary E. Davis, 1983. "A computer model for monitoring boating activity in Channel Islands National Park and Marine Sanctuary, California," NPS Cooperative Studies Unit, University of California, Davis,1983. Ten-page typescript provided by Gary Davis; Gary Davis comments to Dilsaver, February 19, 2019.

1332 Yvonne Menard telephone interview with Lary Dilsaver, November 15, 2018; NPS, "Statistical Reports, 2018.

Point, Cuyler Harbor, Harris Point, or the caliche forest, as stipulated in the park's 2015 GMP. Santa Barbara Island, with the destruction of its fragile landing facility by storm, is not approached.[1333]

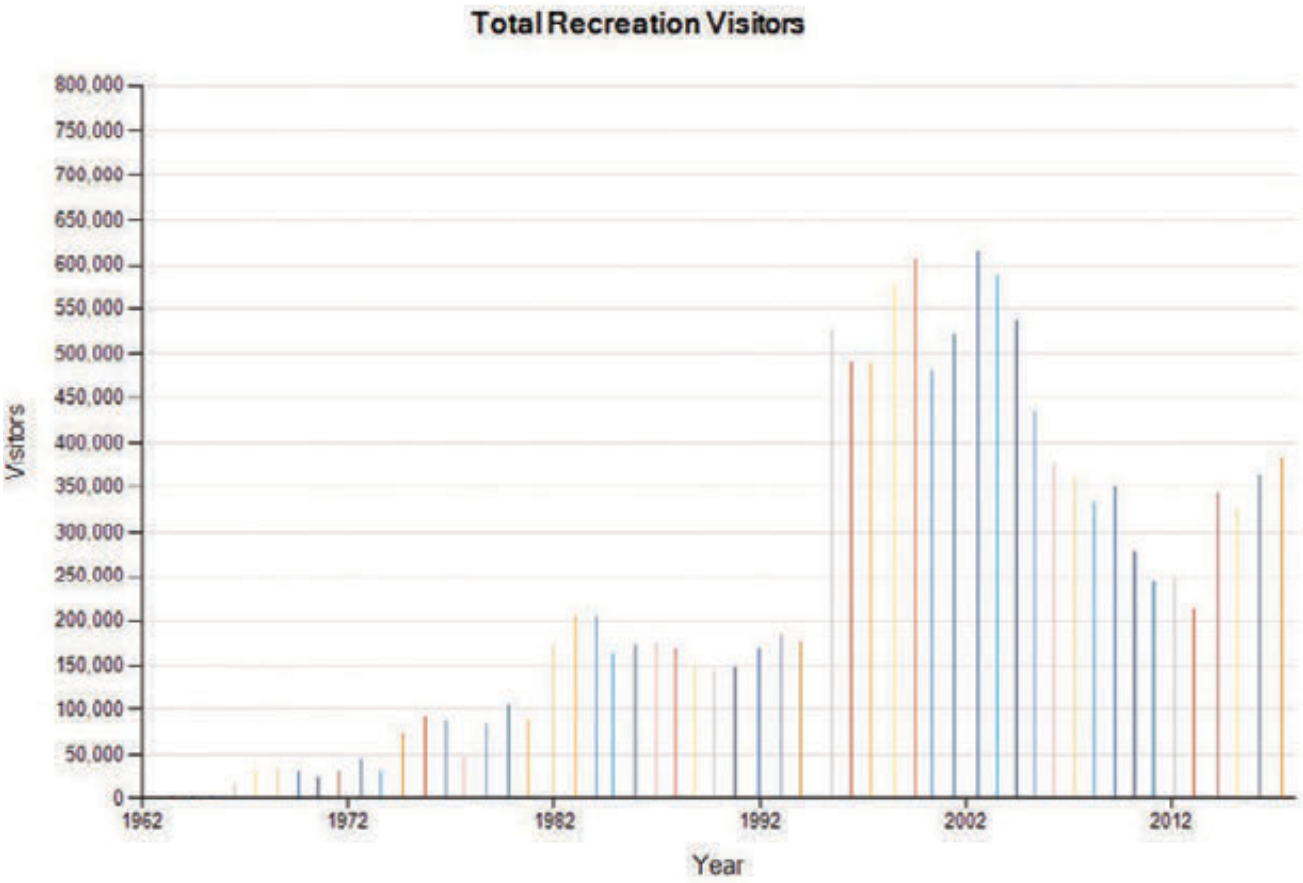

Figure 10-12. Visitation numbers for Channel Islands National Park.

Source: NPS, National Park Service Statistical Reports, Accessed December 11, 2018. https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20Graph%20(1904%20%20Last%20Calendar%20Year)?Park=CHISPhotographer and date unknown. CINP Archives, Acc. 305, Cat. 6844/006.

1333 NPS, "Statistical Reports, 2018."

LAW ENFORCEMENT AND SAFETY

When the park was established in 1980, each of the three islands had an island ranger backed by a few relief rangers. By 2000, all five islands had an assigned ranger that worked an eight-day tour of duty during each two-week pay period. As the most visited island, East Santa Cruz also had a relief ranger for the opposite tour of duty. During his superintendency, Bill Ehorn assigned island rangers as a means of overseeing all the various activities on each island. An island ranger was the only island-based staff person assigned to Santa Barbara and San Miguel Islands; the other three islands also had assigned maintenance staff as well. In addition to their law enforcement and visitor responsibilities, the island rangers assisted the mainland-based park staff, outside researchers, contractors, and others who came to the islands for day visits or short stays, orienting them to the islands, sorting out vehicle use, housing, and other issues, and making sure that everything ran smoothly and that everyone returned to their assigned quarters by the end of the day.[1334]

In addition to the island-based rangers, the park had run marine patrols since the monument era to contact boaters, assist vessels, divers, kayakers, and people in distress, monitor resources, enforce fishing regulations, and carry out search and rescue. Park rangers had participated in marine patrol with the California Department of Fish and Game using the Marine Sanctuary's *Xantu* boat from 1984 until 1995, when the Channel Islands National Marine Sanctuary withdrew its financial support for the program. At that point, Chief Ranger Jack Fitzgerald, who had managed the Sanctuary and the park's marine patrol program, continued to conduct marine patrols with a limited ranger staff and using rigid-hull inflatable Zodiac patrol boats. The rangers often paired with the CDFG wardens on the state's *Swordfish* boat.[1335]

The marine patrol program received a large boost with the establishment of the State of California's marine reserves around all of the islands in 2003 and NOAA's extension of them into federal waters in 2006. The park received base funding increases in 2008 and 2009 to pay for additional staffing and vessel support for the marine patrol program to inform boaters about the marine reserves and enforce the no-take regulations within the reserves.[1336] Fitzgerald hired additional rangers and was able to reestablish a modest marine patrol program.

For the revitalized program, Fitzgerald was interested in purchasing a specialized patrol boat that was larger, more comfortable, and safer than the 20–24-foot Zodiacs that had little protection from the wind and waves and sat low in the water. In the early 2000s, the park received settlement funds from environmental lawsuits that had been prosecuted through the Los Angeles US Attorney's office. Fitzgerald had formed relationships with Bill Carter and Joe Johns in the Attorney's office through the prosecution of several park cases. He had also worked over the years to familiarize the US attorneys, the local district attorneys, magistrates, and other judicial entities with the park by taking them on trips to the islands, so that they would have some understanding of the park when cases came before them. Carter and Johns thought about the park when they reached settlements in federal cases such as cruise ship dumping, oil spills, pesticide contamination, and other lawsuits that involved environmental crimes. Rather than seeing the settlement funds go into the US Treasury, the attorneys directed some of the funds to

1334 Jack Fitzgerald, interviewed by Ann Huston, June 26, 2019.

1335 Ibid.

1336 NPS OFS electronic database.

environmental agencies that could use the money for restoring resources. The park received several million dollars through this avenue that went toward the marine patrol program, the fox captive breeding program, upgrading the landing craft wheelhouse, shipwreck monitoring trips, construction of temporary employee housing on East Santa Cruz Island, and interpretive programs and signage.[1337] These monies were deposited into holding accounts and managed by the National Park Foundation. The Foundation applies a modest account maintenance fee and accounts accrue interest. When needed, the park requests funds from the National Park Foundation.

Fitzgerald set aside a substantial amount of the settlement funds for the new patrol boat that he envisioned, but retired before it could be purchased. When Dave Ashe, Fitzgerald's replacement, came on board, his first task was to purchase the new patrol boat. In 2012, the park purchased a 38-foot Safe boat for the marine patrol program. The Safe boat was a scaled-down version of the boat that Fitzgerald had desired, but would require fewer people to operate and less maintenance. Several other parks and the US Park Police were using Safe boats, so they were a known quantity. Their desirable attributes from the ranger perspective were the cabin that kept them out of the elements, decks in the front and back for contacting other boats, back-ups for the radar and navigation systems, and a dive cut-out in the back of the boat. The park added a second 22–24-foot Safe boat in 2014, which replaced one of the Zodiacs. The Safe boats expanded the area that the rangers could patrol, and provided them with more safety and comfort.[1338] An inflatable boat berth was installed to lift the smaller Safe boat out of the water when not in use to reduce marine growth issues on its hull.

Figure 10-13. A Park Service marine patrol boat.

Source: Photograph by Pat Smith, April 2013. CINP Digital Image Files.

1337 Ibid.

1338 Dave Ashe, telephone interviewed by Ann Huston, July 16, 2019.

With five islands and an enormous marine territory, the park's rangers have struggled to protect the resources and the NPS mission. The law enforcement staff has not grown in proportion with its responsibilities. In 2020, there is a three-person marine patrol crew, a chief ranger, and island rangers only on Santa Cruz and Santa Rosa Islands. There are no relief rangers. The "island manager" role that the rangers played has mostly disappeared. The consistent presence of rangers on the islands and on marine patrol is what provides adequate knowledge of the resources, identification of violators, and the ability to collect information over time to put together and prosecute criminal cases. Some of the most significant cases in the history of Channel Islands National Park were the prosecutions of California Wreck Divers in 1987, Brian Krantz and others associated with Island Adventures in 1996, both for plundering archeological sites, Mark Brubaker and Kathryn Preis in 1996 for theft of Chumash artifacts and a pygmy mammoth femur from the islands, and Rob Puddicombe for interfering with the eradication of rats on Anacapa Island in 2001.[1339] The most common problems are poaching and vandalism on the islands, illegal fishing in marine reserves, occasional attacks on pinnipeds, and drug smuggling. Rising costs and budget attrition have resulted in a net loss in the number of ranger positions. Island rangers have always been hard to recruit and retain. It has become more difficult as rangers become more specialized in law enforcement and there are fewer generalist rangers.[1340]

Between 2009 and 2015, increasingly stringent border enforcement led Mexican smugglers to start using boats to transport their human and drug cargoes into California, rather than attempting to cross the border over land. They chose isolated areas around San Diego to drop their cargo and later began moving up the coast to avoid detection. One incident in early March 2010 led federal authorities to arrest four Mexican nationals on Santa Rosa Island with 2,448 pounds of marijuana valued at $1,200,000. They did not intend to land on the island but ran out of gas for their small boat after unsuccessfully trying to hide from a US Navy helicopter patrol. They beached on the western part of the island, covered the bales of marijuana with foliage, and hid themselves, to no avail. They did not hide the empty fuel cans or the wreckage of their boat. US Customs and Immigration agents arrested them and confiscated the illegal crop.[1341] Superintendent Galipeau, as a safety precaution evacuated the island and closed it to all use until it could be determined that all perpetrators were in custody. A year later, 15 undocumented migrants were dropped off on Santa Cruz Island, where they were picked up by the Coast Guard.[1342]

In 2012, another drug smuggling event occurred, this time with fatal consequences. On December 2, the Coast Guard cutter *Halibut* investigated a pair of suspicious boats near Smugglers Cove on Santa Cruz Island. One of the boats, first detected by a patrol plane, had fallen under suspicion because it was operating in the middle of the night without lights and was a "panga" style vessel, an open-hulled boat that Coast Guard spokesman Adam Eggers described as "the choice of smugglers operating off the coast of California." Chief Petty Officer Terrell Horne III and three other crewmen boarded a smaller, rigid-hull inflatable and approached the vessel whereupon it turned toward them and rammed the smaller boat. Horne received a fatal

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1339 Jack Fitzgerald, interviewed by Ann Huston, October 10, 2019; "Tip Leads to Ill Gotten Stash," *Common Ground*, Fall/Winter 1996, 8.

1340 Ian Williams e-mail to Lary Dilsaver, November 26, 2019.

1341 "Beached pot smugglers ran out of gas," *Ventura County Star*, March 11, 2010.

1342 CINP Press Release, "Coast Guard, National Park Service locate 15 suspected illegal migrants," July 10, 2011.

head wound and died on the trip back to the mainland. The Coast Guard later caught two Mexican nationals and they were prosecuted for the crime. Once again, NPS rangers were not actively involved in this incident but, for the second time in three years, Superintendent Galipeau had to close part of an island to be sure it was safe for visitors. The Coast Guard suggested that he was overreacting, but could not confirm that there was no further danger in the short term.[1343]

Another event occurred on January 31, 2000, that showed how difficult it is for a national park to separate itself from the events happening outside its boundaries, even if it consists of oceanic islands. That afternoon, Alaska Airlines Flight 261 crashed into the ocean 2.5 miles north of Anacapa Island. All 83 passengers and five crew members died. NPS Maintenance Mechanic Drew Gottshall on Anacapa Island witnessed the crash and notified Park Dispatch at 4:25 p.m. The park then notified the Coast Guard and sent a crew of six out on the *Ocean Ranger* to help with search and rescue efforts. A squid fishing boat owned by Tony Alfieri also saw the plane go down and rushed to the site as well. Media calls began coming to the Park Dispatch almost immediately and to Chief of Interpretation Carol Spears at her home well into the night. A frenzy of media attempts to get to the crash site or to Anacapa Island were thwarted by rough seas around the island and a refusal by the National Park Service to allow reporters on *Ocean Ranger*. Spears had to come to the headquarters for a 4:00 a.m. interview and Park Dispatch remained open throughout the night.

Over the next three days, reporters including those from the major television networks sought to interview Gottshall, who was deeply disturbed by the incident and did not want to comply. Also, the National Transportation Safety Board (NTSB) had asked him to withhold his testimony to avoid influencing other witnesses. The park's staff helped him remain away from the park while issuing multiple news briefs. Many of the park's senior officials and rangers shifted locations and worked extended hours to cope with the sudden demands. At the same time, the NTSB established an 18-mile exclusion zone around the crash site accessible only to US Navy and Coast Guard vessels. This closed access to Anacapa and East Santa Cruz Islands. On Wednesday, January 2, the NTSB reduced the exclusion zone and CNN was allowed to conduct a broadcast from Anacapa Island. Continued efforts to interview Gottshall finally abated when the park released his official written transcript of what he saw. On Thursday, the Coast Guard recovered two black boxes from the submerged wreckage that confirmed the plane had suffered from a defective horizontal stabilizer and had been cleared for an emergency landing at Los Angeles International Airport.[1344]

1343 "Chief petty officer is killed; Coast Guardsman's boat was rammed after he approached suspected smugglers near Santa Cruz Island," *Los Angeles Times*, December 3, 2012. https://search-proquest com.proxy.library.cpp.edu/latimes/docview/1221087989/fulltext/1EDEEF1B38CC4CEBPQ/2?accountid=10357 Accessed June 26, 2019; Russell Galipeau e-mail to Lary Dilsaver, June 2, 2019.

1344 CINP, "PIO for Alaska Airlines Crash Incident," February n.d., 2000, CINP Digital Intranet files; "88 Feared Dead in Crash off Ventura County," *Los Angeles Times*, January 31, 2000.

INTERPRETATION

In November 1999, Channel Islands National Park opened a contact station in Santa Barbara to supplement the main visitor center in Ventura. The City of Santa Barbara donated a site and funds for a part-time interpreter.[1345] This coincided with a major transformation of interpretation. The traditional focus was based on uniformed NPS rangers meeting visitors in the park to give talks and lead walks. New emphases focused on development of an extensive volunteer network to provide on-island interpretation and an expansive outreach to the public through educational programs developed at the headquarters and distributed with high-tech tools such as the Internet. Derek Lohuis moved from his base providing interpretive services on the islands to a headquarters position overseeing island interpretive activities and working on exhibits, publications, and digital resources including the website. He expanded the network of trained volunteer naturalists to cover interpretive services on the islands. In 2001, volunteers conducted 33,656 hours of work, equivalent to 16 full-time employees. Interpretation volunteers accounted for more than one-third of those figures. With Shauna Bingham of the Marine Sanctuary he merged the island volunteers with Bingham's "Whale Corps" (formed in 2003 to provide interpretation on whale-watch cruises) to form the "Channel Islands Naturalist Corps." This new group conducted on-boat informal interpretation on whale-watch cruises and island trips as well as leading interpretive hikes on the islands and representing the park and sanctuary at community and special events. By 2019 the group had more than 150 volunteers.[1346]

Lohuis also became designer of the park's website and helped develop programs sent out to an ever-widening spectrum of the general public. This coincided with a much-heralded worldwide initiative called the JASON Project and extension of the Channel Islands Live[1347] broadcasts to local schools and ultimately the Internet. Noting that some in the park did not agree with this shift away from direct NPS uniformed interpretation on the islands, he explained that he and Chief of Interpretation Menard decided not to focus exclusively on the relatively low number of visitors who, by coming to an island, showed that they were already sold on the park. He likened it to "preaching to the choir." Instead the emphasis became explaining the park's resources and the NPS mission to as broad a spectrum of the public as possible. To accomplish this the park needed to develop a much more sophisticated communication system and high-quality educational programs to meet curriculum requirements and to interest the nationwide audience. One result of this new focus was construction of a studio in the visitor center/headquarters to broadcast programs.[1348]

A huge opportunity presented itself when Dr. Robert Ballard, the oceanographer famous for finding the *Titanic*, developed the JASON Project as a means to engage students and teachers in understanding and protecting the marine environment. In September 2001, Julie Bursek of the Marine Sanctuary and Yvonne Menard made a presentation to the board of directors of the JASON Project and secured an agreement for that organization to develop a year-long educational curriculum on the Channel Islands. Teachers taught about the Channel Islands in various subject areas for the entire school year with a highlight two-week live broadcast that connected them directly to researchers and the resources the last week of January and the first

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1345 Tim Coonan to Suzan Smith, October 25, 2000, CINP Archives, Chief of Interpretation files.

1346 Derek Lohuis interviewed by Lary Dilsaver, September 2, 2018.

1347 Formerly known as the Underwater Video Program until the JASON event.

1348 Ibid., CINP, "FY02 Visitor Stats," CINP Archives, Chief of Interpretation files.

week of February 2003. This education initiative reached over 33,000 teachers and over 1.6 million students worldwide. Many more millions viewed the live broadcasts via daily television simulcasts by National Geographic. After inspections of Point Bennett and other locations in the park, the team decided to broadcast "*JASON XIV: From Shore to Sea*" from Anacapa Island and the Santa Barbara Maritime Museum. Key to the program aimed at middle school students was the incorporation of middle and high school students as "Argonauts." Nationwide, students competed for 28 spots to be presenters along with scientists and other experts. Most of the topics were marine in nature but also included cultural resources and even the fox and island restoration programs. Two of the students, Tano Cabugos and Georgia Broughton, came from the local communities. Their parents accompanied them to Anacapa Island for their presentations. Ballard and the JASON Project team, along with regional scientists, worked with teachers and students to conduct field research activities.[1349]

Communication involved expensive links from island to mainland to satellite to TVs around the country. It linked to the Internet and was broadcast on the National Geographic Channel. The number of people involved in the transmissions from Anacapa Island as well as the tons of equipment involved presented a logistical challenge. Park staff from all divisions stepped up to meet the demand. National Park Service and Marine Sanctuary craft had to be used and many of the crew and park staff camped on Anacapa for up to 25 days. Fortunately, the winter weather cooperated and the programs were broadcast daily from January 27 through February 7, 2003, except for February 2. Dave Stoltz later recalled that the production crew donated part of their work time to help the project costs but that it still went over $3,000,000. Channel Islands National Park Acting Superintendent Terry D. Hofstra celebrated the opportunity "for scientists to pass their knowledge on to young people who are eager to learn; and to build a constituency for protected areas."[1350]

Success with the JASON Project and its high-quality technology spurred the park to establish a formal partnership with the Ventura County Office of Education (VCOE) to develop a robust and reliable microwave system from Anacapa Island that links to mainland communication towers that connect to the Internet and schools. This microwave system also provides essential Internet service for park staff on Anacapa and Santa Cruz Islands. Menard worked with VCOE Technology Director Steve Carr to develop a cooperative agreement and install the new 11-megahertz microwave system using environmental damage lawsuit settlement funds provided to the park. This partnership became known as "Channel Islands Live" and has been successful since 2005 in providing live programs, wildlife webcams, and educational curriculum to millions of students and the public. In 2006, the park and VCOE installed the first wildlife webcam for Channel Islands Live, a camera system that captured the first bald eagle to hatch in over 50 years on Santa Cruz Island. Over 1.6 million viewers were glued to the webcam as the eaglets matured and fledged from the nest. Explore, a division of the Annenberg Foundation, joined the partnership in 2015 and expanded the number of wildlife webcams. Explore currently manages six wildlife webcams and makes live broadcasts available on various media (Facebook, You Tube, Twitter) allowing thousands to view a single live dive at one time. Among the priorities, according to Menard, was to reach students from diverse communities who make up a sizeable

1349 Yvonne Menard interviewed by Timothy Babalis, August 12, 2009; NPS, "International JASON Project Exploration at Channel Islands National Park Schools Worldwide Study Jason XIV: From Shore to Sea Curriculum," January 17, 2003, CINP Archives, CHIS 42426, Acc. CHIS-00487, Box 1:13.

1350 "International JASON Project," January 17, 2003; Dave Stoltz interviewed by Timothy Babalis, June 26, 2009; Yvonne Menard interview, 2009.

proportion of the local student bodies and who are generally not exposed to ecology and the islands in their day to day lives.[1351]

In addition to the enhancement of the Channel Islands Live and school educational programs, the interpretation staff rehabilitated the main visitor center, expanded the interpretive features on the islands, produced a new park film, and aggressively worked to develop further its digital output. According to Lohuis, virtually all the exhibits in the visitor center are new, having been installed since 2000, with a new thematic plan to enhance the public understanding of the diversity and significance of park resources. The park's interpretation division and Harpers Ferry Center designed new exhibits for Scorpion Ranch to provide an opportunity for visitors to learn about the park at this most-visited location on the islands. In 2009, the park dedicated a new information kiosk and island model, a blacksmith shop exhibit in the old implement shed, and new exhibits in the adobe ranch house that interpret the island's geology, flora and fauna, Chumash residents, and ranching history.

The park's historic preservation crew restored the small schoolhouse on Santa Rosa Island and it now houses an interpretive display. A proposal to develop a full visitor center on the island has been submitted, but there are questions about the relative value of spending a large amount of money on an island that gets relatively few visitors each year. Much more promising is the new island mobile interpretive app that supplements the printed guides that Lohuis has written for each island and major resource.[1352]

Digital media is a core element of the park's interpretive program with in-depth resource content available on the park and other websites. Park staff have designed and developed two NPS subject-specific websites that are hosted on nps.gov to feature the popular story of the Lone Woman from the novel *Island of the Blue Dolphins* and the importance of national park ocean resources. In 2010, the park launched a new film narrated by Kevin Costner that has received numerous awards. Lohuis led the film project that also included an upgrade to the park's audiovisual system which Harpers Ferry Center specialists have described as the most complex system in the service.

The public information media services have continued to expand since 2001 with several challenging and controversial projects such as the eradication of rats on Anacapa Island, pigs on Santa Cruz Island, and deer and elk on Santa Rosa Island. National and local media attention and activity have consistently focused with interest on restoration efforts including the island fox recovery, the delisting of bald eagles, California brown pelicans, and island fox, as well as the creation of marine protected areas, and the restoration of wetlands and native plant habitats. Discoveries of pygmy mammoth and ancient sea cow fossils and precontact archeological sites have boosted national interest in the Channel Islands. Travel media routinely highlight the recreational and wilderness assets of the park making the Channel Islands a known and sought-after destination. The public affairs activity is significant with numerous interviews, press releases, social media posts, media trips, and film permits each year.

The park's nonprofit Friends of the Channel Islands group, revitalized in 1993, was moribund by the end of the decade. Superintendent Setnicka decided to dissolve the group and by 2003 the formal dissolution had been completed. In the meantime, an independent group, Friends of

1351 Yvonne Menard interview, 2009.

1352 Derek Lohuis interview, 2018.

the Island Fox, had formed in the early 2000s to support island fox restoration work. Superintendent Galipeau and Chief of Interpretation Yvonne Menard solicited board members to form a new Friends group. In 2005, the Channel Islands Park Foundation was incorporated. The Foundation raises funds to support natural and cultural resource restoration programs, as well as park education and interpretive initiatives.

During all these advances, one problem has continued to beset the Interpretation Division. Like all the other park divisions, it is perennially understaffed and underfunded. Despite staffing challenges, the Interpretation Division produces significant statistics and reach to the public in all interpretive services. In 2009, Menard was able to get the VIP budget doubled due to continued expanded volunteer activity. The interpretation division took on the supervision and management of the park guides that are funded from campground revenues to provide consistent interpretive services on some of the islands. The guides also provide campground management and sanitation services.[1353] Interpretation continues to manage the park volunteer program which continues to expand in volume, value, and types of volunteer contributions. In 2019, volunteers contributed the equivalent of 28 full-time positions.

Cooperative Education

One recent action, while connected more to resource management than interpretation duties, is an indirect step disseminating information to members of the public as well as cementing a positive relationship for the future. In November 2012, the National Park Service issued a permit to California State University, Channel Islands to operate a field research and teaching station on Santa Rosa Island. It serves as a platform from which a range of field research and educational activities in archeology, botany, ecology, entomology, historic preservation, ichthyology, marine biology, microbiology, ornithology, chemistry, and geology are carried out. The Park Service assigned use of two buildings, the 2,110 square-foot former Vail & Vickers Ranch bunkhouse for visiting students and researchers and the former Russ Vail house to serve as a base for the resident manager of the research station. The university may also use a four-acre former pasture south of the Bechers Bay complex to accommodate fixed tent platforms or other camping venues. This education complex will complement the University of California Field Station on TNC property on Santa Cruz Island but, being on NPS land, will be more accessible than the older station.[1354]

PARK ADMINISTRATION

Chris Horton retired in 1994 and Grace McGrath joined the park as the new administrative officer. As the park grew, the administrative workload grew exponentially. The size and complexity of contracts increased, with the contracting officer gaining additional warrant levels and training for increased purchasing authority and to handle construction contracts, cooperative agreements, and other procurement requirements. The park received delegation of authority as a full servicing personnel office in 1996, with the park's personnel officer becoming responsible for carrying out all staffing, employee relations, retirement, classification, and

1353 Ibid., Yvonne Menard interview, 2009; Menard additions provided to Dilsaver May 16, 2020.

1354 California State University, Channel Islands, "Santa Rosa Island Field Station," https://www.csuci.edu/sri/ Accessed January 5, 2019.

personnel actions. Budget increases to the park's annual appropriation, as well as additional project funding, required tracking of numerous accounts each year.[1355]

With the delegation of authority for human resources, managing all of the attendant responsibilities created a constant rearrangement of priorities for the park and the personnel officer, Denise Domian. One of Domian's own priorities was to increase the hiring of under-represented groups on the park's staff, having been struck by the park staff's lack of diversity on her arrival at Channel Islands in 1988. Special hiring authorities for students, veterans, and persons with disabilities, and a Spanish-language screen-out factor aided these efforts, although park managers initially required persuading to take advantage of these opportunities. Domian later joined the NPS Recruitment Futures Implementation Team that was working with Hispanic-serving institutions, historically black colleges and universities and other organizations to introduce under-represented groups to the mission of the Park Service and to recruit individuals to work in the parks. Domian and the park received awards for her success in these efforts and the park's improved staff diversity shows the results of this work.[1356]

Computer technology reached the parks in the late 1980s and 1990s. Superintendent Shaver recognized that this was the wave of the future and created an office in the park for a Washington, DC-based information technology expert, giving the park an early jump on technology. The Park Service increasingly began to use nationwide electronic database systems for tracking budgets, funding requests, training, payroll, park performance, the maintenance backlog, and other functions. There were specialized systems for personnel actions, contracting, and finance as well. The park brought on its first information technology specialist, Ulysses Huerta, in 1998 with responsibility for maintaining the park's telecommunications and computer networks on the mainland and islands.

During the early 1990s, the administrative division maintained adequate staffing, with human resources, contracting and budget specialists, along with assistants for the various functions. By 2000, however, the division had lost several assistants due to decreased funding, even though the workload had continued to increase. Administrative officer Grace McGrath transferred to another agency in 1999 and her position remained vacant; Denise Domain and Kim Glass fulfilled the role until they each left, and Trish Buffington, who was promoted as the park's budget officer in 2009, has overseen the administrative area since that time.[1357]

During the late 2000s, the National Park Service underwent a dramatic reorganization of the human resources and procurement programs. Park and regional personnel lists were organized into Servicing Human Resources Offices (SHROs), each serving a network of parks. Although a park might retain its human resources personnel, they now reported to a SHRO lead, possibly in another park, and performed human resources work for all of the parks in the network. At the same time, NPS switched to an electronic vacancy announcement system, which created an additional layer of adjustment. With Denise Domian's retirement in 2011, the park lost its park-based personnel specialist and the human resources functions have since been carried out by the Mojave and Mediterranean SHRO with staff based in other parks.

1355 Denise Domian, telephone interview with Ann Huston on January 13, 2019. Recording on file in CINP archives.

1356 Ibid.

1357 Trish Buffington, e-mail to Ann Huston, Dec. 9, 2019.

Similarly, park and regional contracting and purchasing personnel were organized into Major Acquisition Buying Offices (MABOs), each serving a network of parks, though not necessarily overlapping with the SHRO networks. Channel Islands' contracting officer Yvonne Morales transferred to Point Reyes National Seashore as the new MABO lead during the reorganization. Her park-level replacement is located at Point Reyes, reports to the MABO and serves all the parks in the MABO network.

The park has lost significant administrative capacity since the 1988 Superintendent's Annual Report declared that the administrative division was finally adequately staffed. The park's administrative responsibilities are currently spread among the budget officer, a fiscal technician, three administrative assistants that serve the various park divisions, the IT specialist, a commercial services program manager, the SHRO and the MABO. The current staffing level results in the budget analyst's time largely being spent fulfilling administrative officer duties, such as serving as an active member of the park's management team; overseeing the commercial services program; setting the local standard for business practices and internal controls; implementing new business systems and procedures at the park level; serving as park liaison with the SHRO and MABO; and acting as liaison for administrative matters and questions regarding policies and procedures. These workload capacity issues and other staffing challenges within the park are being addressed through the park's strategic planning effort that began in December 2019 under the leadership of superintendent Ethan McKinley. [1358]

THE STATUS OF RESOURCES AT CHANNEL ISLANDS NATIONAL PARK

Natural Resource Condition Assessments (NRCAs) evaluate current conditions in 270 national park units with significant natural resources. They report trends in resource condition, identify critical data gaps, and characterize a general level of confidence for study results. They are an outgrowth of the Inventory and Monitoring (I & M) program that "disseminates the results of scientific studies in the physical, biological, and social sciences to advance science and carry out the National Park Service mission."[1359] The NPS Natural Resource Stewardship and Science Office in Fort Collins, Colorado, began publishing these reports in 2008. NRCAs provide parks with reliable resource condition data used to develop resource management plans, vulnerability assessments, special use permits, and GMPs. Each park can tailor its assessment to fit the specific issues it faces. The credibility of NRCA results is derived from the data, methods, and reference values used in the project, which are designed for its stated purpose. The level of rigor can vary by resource or indicator, depending upon the amount and quality of existing data for and knowledge of each resource. For each current condition or trend reported, the assessment should identify critical data gaps and describe the level of confidence, at least qualitatively. "NPS staff and cooperating scientists select study indicators; recommend data sets, methods, and reference conditions; and help provide a multi-disciplinary review of draft study findings."[1360]

1358 Trish Buffington, e-mail to Ann Huston, January 16, 2020.

1359 Ana Davidson, Kathryn McEachern, Tim Coonan, Tim Bean, Amon Armstrong, and Brian Hudgens. "Channel Islands National Park: Natural Resource Condition Assessment 2014." (National Park Service, Fort Collins, Colorado: 2017) 14-18, 124; NPS, "Natural Resource Condition Assessment Program," https://www.nps.gov/orgs/1439/nrca.htm Accessed October 24, 2018.

1360 Ibid. 18.

For Channel Islands National Park, the NRCA team members focused on whether or not vegetation (primarily woody vegetation) was recovering on the five islands and how that was influencing recovery of the native terrestrial vertebrates. They evaluated the condition of vegetation and vertebrate communities on the islands using existing information from reports, theses, and journal articles as well as new analyses of recently available data collected on the islands by the I & M program. Although the final report is dated 2017, the data were collected by the end of 2014. The results were mixed but hopeful. Four of the five islands—Anacapa, Santa Cruz, San Miguel and Santa Rosa—exhibited some native vegetation recovery. However, Santa Barbara Island showed very little recovery.

Anacapa Island's three segments have experienced varied recovery since the removal of sheep in 1938. The western and middle islets now support native perennial grasslands, live-forever communities, and a teeming population of brown pelicans. The two islets benefit from closure to visitation that also inhibits importation of exotic vegetation. East Anacapa Islet, however, has not recovered as much due to the dense infestation of ice plant and relatively heavy visitor use. Active eradication of ice plant and other nonnative plants by the NPS continues and may eventually enable the eastern islet to match the recovery of its neighbors. Nevertheless, woodland and chaparral vegetation lag behind native grasses and only occur in small stands on the islet. The eradication of rats led to recovery by most native birds although a few landbird species are troubled by the native deer mice that prey upon their eggs. The NRCA characterized Anacapa Island as being in moderate condition but having a high probability of eventual recovery provided that the agency continues active restoration on the eastern islet.[1361]

Removal of domestic sheep and feral pigs from Santa Cruz Island has allowed a rapid ecological change that varies across the landscape depending on terrain, maritime exposure and climate. Coastal sage scrub and riparian vegetation are recovering most rapidly, while pine and oak woodland recovery is promising but spatially uneven. Scientists believe that the likeliest scenario is the establishment of a mosaic of native woody vegetation with an understory of nonnative and herbaceous vegetation. This process is slower on the warmer, south side of the island. Steep slopes remain threatened by erosion and dense stands of fennel still occupy areas of the Central Valley and Christy Ranch regions. Nonnative herbaceous plants, mainly annual grasses, still dominated woodland understories. Some endemic species that suffered dramatic losses are rebounding while others are not. Although it is early in the restoration phase, Santa Cruz Island appears to be evolving into a landscape dominated by native scrub, chaparral and woodland that retains annual grassland openings and nonnative understory. Populations of terrestrial vertebrates on the island have benefited tremendously from the removal of nonnative animals. Recovery of the island fox has led to adjustment of the bird, mice, and spotted skunk populations and most species have seen increases in recent years. Authors of the NRCA rated Santa Cruz Island as being in a moderate condition with positive trends in recovery although uneven for some floral species.[1362]

Santa Rosa Island is in an early but accelerating stage of native vegetation recovery since removal of the last ungulates. When the data were collected, it had been 16 years since cattle left the island but only two years since the last deer were eliminated. However, scientists reported that the potential for natural recovery was high for most of the island. Santa Rosa is not as

1361 Ibid. 117-18.

1362 Ibid. 143-44.

topographically rugged as Santa Cruz and this has more evenly spread the benefits of eradicating nonnative ungulates. Riparian areas have regained herbaceous vegetation but still lack trees. Woody plants have begun to recruit in woodland, chaparral, and coastal sage scrub since release from deer browsing. Researchers identified some factors that hinder their recovery including competition from dense brome grasses, lack of soil and litter to form seedbeds in upland areas, inability to capture and retain water from fog, and continued erosion and sedimentation. Drought years also have slowed recovery and climate change is threatening as well. Habitat recovery for animals has been generally good although species dependent on standing and downed woodlands have lagged behind others. As on Santa Cruz Island, the restoration of the island fox has rippled through the vertebrate populations and achieved ecological integrity. The "Condition Assessment" for Santa Rosa Island rated its recovery as moderate for vegetation and good for animals.[1363]

Sheep grazing and the continuity of strong winds probably damaged San Miguel Island more than any of the other islands. Its denuding led to extensive sand dunes that covered much of the surface and eliminated most of the native vegetation. During the late 20th century, a mix of native and nonnative plants slowly began to stabilize the coastal dunes leading to low scrub in some areas. Island vegetation has recovered, somewhat, from the impacts of sheep prior to World War II, but areas of exotic grassland persist and the chaparral present before settlement has not reappeared on the island. The NRCA scientists reported that active restoration is needed to find native seed sources, grow plants for seed increase, and develop chaparral habitat on the island. Vertebrate populations are healthy and at relatively high densities probably due to the limits on visitor access imposed by the navy. Island foxes have recovered from the precipitous decline of the mid-1990s and may number more than before the crisis. Land birds also exist at fairly high densities. Scientists opine that while there may not be the same composition of native vegetation communities that existed prior to the introduction of nonnative grazing animals, this may not be as important as on other islands. They believe that similarities among the scrub and even the grassland habitats on San Miguel, the relaxed niches exhibited by island species, and the generalist nature of island foxes indicate some recovery from the desert-like landscape described by observers throughout the preceding century. The NRCA rates San Miguel's condition as moderate except for native chaparral and good for animals with high potential for greater recovery.[1364]

Finally, there is Santa Barbara Island and here the picture darkens. The "Condition Assessment" notes that the island:

> *is still dominated by exotic annual vegetation more than 30 years after rabbits were removed, in what appears to be a new stable state for the island. Vegetation cover and composition fluctuate with the precipitation rather than trending toward a more native shrubby condition over most of the island. Upland native shrub recovery has not occurred naturally, and is insufficient to provide habitat for the nesting seabirds that used the island before ranching… Factors limiting recovery appear to be aridity, the lack of native soil seed banks, widespread crystalline iceplant seed bank, and plowing of the uplands that destroyed soil structure and native seed banks. The potential for natural recovery of SBI [Santa Barbara Island]*

1363 Ibid. 182-83.

1364 Ibid., 216-17.

> *vegetation to a condition like pre-ranching is low. Island vegetation needs active recovery to move it out of its current annual-dominated state towards a landscape dominated by native scrub.*

The lack of native scrub has inhibited animal recovery and the populations of birds, reptiles, and mammals remain low. Although the Santa Barbara song sparrow went extinct in 1958, none of the other vertebrate species are similarly threatened, but scientists worry that climate change could endanger some of them in the future. The report rates the vegetative condition of Santa Barbara Island as poor, the animal condition as moderate, and the recovery potential of both as low. The cessation of visitation due to the collapse of the landing facility may give the island a welcome respite, but significant and expensive proactive steps will be required by the NPS to bring the island to the level of improvement seen on the other four islands.[1365]

Channel Islands National Marine Sanctuary also conducts and publishes "Condition Assessments" for the resources in its protected area. This includes a much larger portion of the ocean than the area within the park boundary. Nevertheless, it still provides a good idea of what is happening in the one-mile section around the park islands. The report's 2016 summary offered a mixed but hopeful analysis of the resources:

> *The abundance and diversity of wildlife seen around the northern Channel Islands is remarkable compared to many parts of the world and was a main reason for its sanctuary designation. Although the 2016 status and trends are quite variable across the range of species in the sanctuary, overall, the data indicate that many of the sanctuary's living resources are showing relative stability or improvement since 2009. For example, most kelp forest and seafloor-associated fishes are stable or increasing, especially inside no-take zones [the 13 marine reserves and marine conservation areas]. Additionally, the number of native species in sanctuary habitats, which is one measure of biodiversity, appears to be stable with no known recent local extinctions; however, the island-wide drastic declines in sea stars, a keystone species in rocky shore and shallow reef habitats, coupled with the establishment of a few non-indigenous species at some island monitoring sites, contributed to worsening trends in the status of nearshore communities and raises concerns about future impacts to ecological integrity and biodiversity.*[1366]

The "Condition Assessment" insisted that monitoring of living resources in sanctuary habitats needs to continue to determine whether key species and community assemblages will return to past patterns or if new patterns are emerging in response to changing climate and other human pressures. The effects of the warm water event that began in 2013 and lasted until 2016 were troubling. Failure to establish larger no-fishing reserves around the islands certainly continues to stress the various near-shore species. The inclusion of 21% of the island coastlines shows that recovery is possible. But, the continuing decline of all species of abalone, the arrival and spread of exotic organisms such as *Sargassum horneri* and *Undaria pinnatifida*, ongoing climate change, and the pressure of overfishing in the region as a whole will present threats that will be difficult to measure, let alone to control.

1365 Ibid., 91-92.

1366 Office of National Marine Sanctuaries, "Channel Islands National Marine Sanctuary Condition Report 2016, Volume I," (NOAA, Office of National Marine Sanctuaries, 2018), 10.

The Sanctuary's "Condition Assessment" of marine cultural resources was generally positive. Data gathered through Channel Islands National Maritime Sanctuary's and Channel Islands National Park's annual Shipwreck Reconnaissance Monitoring Program indicated that since the last assessment in 2009, maritime archaeological resources were relatively undisturbed by divers who had previously looted the sites. However, the *Winfield Scott* shipwreck site has apparently been damaged by improper vessel anchoring. The report stated that "maritime archaeological resources will continue to go through various stages of degradation caused by natural forces, especially those resources located in shallow water and impacted by surge and swells. The diminished condition of an archeological resource could reduce its historical, archaeological, scientific, or educational value, and is likely to affect its eligibility for listing to the National Register of Historic Places."[1367]

The Retirement of Russell Galipeau and Other Senior Officials

In June 2018, Superintendent Russell Galipeau retired from the National Park Service. He was a few months short of the length of leadership served by William Ehorn.

He oversaw the end of Vail & Vickers' hunting operation, completion of multiple new documents including the 2015 general management plan, and the final removal of nonnative domestic herbivores from all five islands. He retired somewhat earlier than he had projected. After a tour of Santa Rosa Island by new Secretary of the Interior Ryan Zinke and members of the Vail family, some park officials suspected that the NPS policies regarding livestock on the island might be suspended and that Zinke was looking for new leadership at the park.[1368] Galipeau decided to retire before any such action could take place.

His departure came during an era of dramatic personnel change at the park.

Long-time Maintenance Division Chief Tim Glass retired in 2008. Kent Bullard served as the acting chief for a year, until Karl Bachmann was hired into the position. The retirements of Earl Whetsell in 2009 and Kent Bullard at the beginning of 2012 brought an end to the park's in-house construction capability. Although the park continued to receive funding for construction and rehabilitation projects, they were primarily carried out through contracts with outside firms, which increased the cost significantly.

During the 2000s, boat captains Randy Bidwell and Brent Wilson joined the maintenance division, Bidwell serving as the Anacapa Island maintenance worker until his retirement, and Wilson taking the maintenance worker position at the Santa Cruz Island isthmus and then moving over to East Santa Cruz Island. The Santa Rosa Island contingent shrank from four maintenance workers (two on each tour) to three, as Tim Jones moved to the Santa Cruz Island isthmus. In 2015 it decreased to two when Ed Smith left his maintenance position on the island to become captain of the *Ocean Ranger*.

Between 2015 and 2020 Channel Islands underwent a complete turnover of the park's management team. At the end of 2014, Ann Huston, the park's chief of cultural resources of the previous 16 years, retired. In April 2015, chief ranger Dave Ashe retired. Kate Faulkner, chief of natural resources since 1990, retired at the end of 2015. In 2016, the park's Chief of

1367 Ibid. 10-11.

1368 Suspicions individually expressed to Lary Dilsaver by Laura Kirn, Ken Convery, and Russell Galipeau, September 2019.

Maintenance, Karl Bachman, transferred to another park. Chief of Interpretation, Yvonne Menard, retired at the end of 2020. When the chief of the Transportation Division, Rhonda Brooks, transferred to the navy in 2012 boat captain Diane Brooks acted in the chief position for several months. In response to regional office scrutiny of the park's safety program following the death of volunteer Joe Wysocki, Superintendent Galipeau elected to create a term position for a safety officer, filled by ranger Ian Williams, rather than filling the transportation chief position. Supervision of the transportation staff was ultimately moved under the Chief of Maintenance Sterling Holdorf, while Diane Brooks continued to carry out many of the contracting, logistics and other administrative duties related to park transportation.

The new superintendent, Ethan McKinley, and all of the new division chiefs, except for maintenance chief Holdorf, came from other parks or agencies. Nevertheless, the current staff is generally pleased with Superintendent McKinley and hopes are high that the park, so often called "North America's Galapagos," will continue to improve and protect its natural and cultural resources in the years ahead.

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SUMMARY AND CONCLUSION

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SUMMARY AND CONCLUSION

The history of Channel Islands National Park consists of four stories that illustrate the issues faced by the National Park Service in the United States and by other land management and preservation agencies in this and other countries. They are: (1) acquisition of the land and, in this case, the sea, by a preservation agency; (2) restoring and protecting ecological integrity; (3) researching and preserving cultural resources; and (4) providing transformative experiences and education to the public. Channel Islands has had extraordinary, in some cases, ground-breaking, experiences with all four processes.

ACQUISITION OF THE LAND AND SEA

Following removal of the original inhabitants in the early 19th century, all eight of the Channel Islands underwent use by ranchers, fishermen, sea mammal hunters, the military, and sporadic residents. The federal government owned the five smallest islands while Santa Cruz, Santa Rosa, and Santa Catalina continued as private domains. The establishment of Channel Islands National Monument in 1938 incorporated the two smallest islands, Anacapa and Santa Barbara, into the monument while the Lighthouse Service retained small reservations on them. The US Navy took over the remaining three, San Clemente, San Nicolas, and the westernmost of the Northern Channel Islands, San Miguel. The National Park Service always wanted to include the two larger islands of the northern group in a park, but faced unwillingness by the owners to sell or lacked the funds necessary to meet their demands.

When most of the largest island, Santa Cruz, finally did sell, it was to The Nature Conservancy, rather than the National Park Service, in 1978. Establishment of the national park on March 5, 1980, included the two islands within its new boundary, but forbade the National Park Service from acquiring TNC land unless there was a threatened change in land use that would not be in conformance with NPS purposes. From the standpoint of ecological management, this was readily acceptable, but 90% of the island remained off limits to national park visitor access. The National Park Service plays a long game in land acquisition, however, and never gave up. The rest of Santa Cruz Island came to the agency through purchases from three of the heirs of Ambrose and Maria Gherini. A fourth heir, Francis Gherini, held out for a much higher price, developed an aggressive antipathy to the National Park Service, and the government finally acquired his undivided share by legislative condemnation in 1997. Use of this legal instrument is rare because of public opposition and it led to a price more than four times that which the other heirs received as compensation. In 1999, TNC donated 14% of the land adjacent to East Santa Cruz Island to the National Park Service giving the agency control of 24% of the island and the important Prisoners Harbor access to the largest part of the island.

Santa Rosa Island proved to be the most controversial of all the land acquisitions by the National Park Service in the park. The Vail & Vickers Company and some range management consultants claimed that raising cattle improved or at least stabilized the island's forage after decades of destruction by sheep prior to 1901. As the largest land area available for a proposed Channel Islands National Park, the agency desperately wanted the island. Initially, the Company sought to remain outside the park boundary. Friendship with Superintendent Bill Ehorn and praise for their stewardship from legislators during the congressional hearings led the Vails to

agree to have their island included in the park but only if purchase of their land preceded all other land sales. Congressman Robert Lagomarsino, as author of the bill to create the park, other legislators, and NPS Director William Whalen offered the Company a reservation of use and occupancy for 25 years to continue its cattle and hunting operations. The Company chose only a 7.6-acre RUO for its residence and operations center.

After the bill passed in 1980, it took six years for the government to allocate the funds to purchase the island and another year for the ranchers and the National Park Service to agree to a Special Use Permit for a 5- or possibly 10-year phaseout. Yet, Lagomarsino, Ehorn, and a number of later park and regional NPS officials came to believe that the Company could continue its operations throughout the island as before through 2011 when their limited residential RUO expired. Problems started when the National Park Service and various scientists began realizing the actual condition of the natural resources. In addition, Superintendent Ehorn, anxious to acquire the island for the park, suggested to Vail & Vickers that their operations would take spatial and temporal precedence over those of the park. The ecological damage exposed by the inventory and monitoring program and frustration with restrictions on activities by the National Park Service—the rightful owners of the island—split the park staff and led to a lawsuit by the National Parks and Conservation Association that the environmental organization would surely win. The lawsuit ended with a 1998 court-established settlement agreement whereby ranching cattle on the island ceased and deer and elk hunting became restrained. The park enjoyed great support from scientists, environmentalists, other state and federal government agencies, and eventually the court. However, some members of the local public and media accused the National Park Service of reneging on a deal established in good faith if not by strictly legal means. That reputation for the agency still resonates among some locals. The deer and elk hunting continued for the rest of the 25 years to 2011 although it was bitterly contested to the end.

Acquisition of San Miguel Island remains a fond hope of the National Park Service. The US Navy still owns the island and, after years of post-World War II bombing and missile strikes, it is loath to relinquish it to the National Park Service. One issue is the potential danger from unexploded ordnance. In 1963, the agency signed a Memorandum of Understanding with the navy to manage the resources on the island and later to guide visitors over a few long-range paths to Point Bennett, the caliche forest, and other areas. The rest of the island is only accessible to scientists and NPS staff trained to recognize and avoid UXOs. Nevertheless, a navy commander closed the island completely in 2014 enraging many in the local area and against the wishes of the National Park Service. After two years, the navy reopened the island to controlled visitation but maintains the power to repeat the closure if it deems it prudent. Because the National Park Service does not own TNC and navy land, any considerations of wilderness status or, conversely, significant visitor infrastructural development are unavailable.

The “ownership” of the sea adjacent to the islands has had a complicated history as well. When the monument was established, the boundary was the high-tide line and the State of California owned the waters out to three miles from the coast. Following a 1947 Supreme Court case and a 1949 proclamation by President Harry Truman, the monument gained control, out to the one-mile line for the two small islands. However, four years later Congress allocated control out to three miles to the states with the Submerged Lands Act of 1953. In 1978, the Supreme Court verified that state jurisdiction. Establishment of the Channel Islands National Park and National Marine Sanctuary in 1980 led to complex overlapping of the Park Service’s one-mile boundary, the state’s three-mile boundary, and the Sanctuary’s six-mile boundary. When it came time to

establish marine reserves, the California Department of Fish and Game was responsible for the first three miles from the islands, the Sanctuary for the next three miles, and the National Park Service, as the instigator of the campaign for the reserves and the producer of most of the monitoring data, officially remained a cooperating law enforcement agency. The history of land acquisition and ocean resource management for Channel Islands National Park demonstrates one of the central issues complicating efforts to preserve ecological integrity and provide recreation space for the public.

THE LEGACY OF ECOLOGICAL RESTORATION

Restoration has been a component of Channel Islands National Park's resource management program since the origin of the monument and the predominant one since the early 1980s. Gary Davis's inventory and monitoring program identified the compelling need for ecological restoration. Most of the resulting activity has focused on the removal or eradication of exotic species such as feral pigs, sheep, and cattle, and invasive plants such as sweet fennel. The park also has implemented habitat restoration. It maintains plant nurseries on Anacapa, Santa Barbara, Santa Rosa, and East Santa Cruz Islands where native species are cultivated for planting to revegetate disturbed areas. The reestablishment of the bald eagle is another highly publicized example of the restoration of an element of the environment to the islands. Establishment of marine protected areas has helped preserve many species as well as entire habitats in the sea. The relatively minor physical development that occurred within the historic period on the Channel Islands, compared with the remainder of Southern California, has left much of its natural environment substantially intact. The opportunity to restore ecological integrity to the islands is enhanced by their isolation. The sea forms a natural barrier against further invasion of exotic species. Isolation makes it feasible to maintain and manage any progress made in the restoration of the islands' ecological integrity, unlike mainland landscapes of comparable size.

An obvious question pertaining to any restoration program is implied in the term itself—restoration *to what*? For many years, the National Park Service was guided, directly or indirectly, by the principles expressed in the 1963 Leopold Report, which stated:

> *As a primary goal, we would recommend that the biotic associations within each park be maintained, or where necessary recreated, as nearly as possible in the condition that prevailed when the area was first visited by the white man. A national park should represent a vignette of primitive America.*[1369]

In accordance with these principles, Channel Islands should be restored to conditions that existed at or just prior to the early 19th century, when Spanish and then Mexican colonists first introduced significant changes to the native landscape.

Resource managers now look at a variety of factors that contribute to the health of a naturally functioning ecosystem, as well as considering practical limitations. In practice, the objective is often still defined by the pre-European environment, to the extent this is known, but it does not have to be. On the Channel Islands, much of the environment has been so greatly altered by human activities within the historic period and even the precontact millennia that it would be

1369 A. Starker Leopold et al., "Wildlife Management in the National Parks," in *Transactions of the Twenty-eighth North American Wildlife and Natural Resources Conference*, ed. by James B. Trerethen (Washington, DC: Wildlife Management Institute, 1963).

impossible to restore the environment to a purely natural condition. Restoration efforts have therefore concentrated on improving the integrity of ecological systems to the point where they can become self-sustaining and resilient. Resource managers have attempted to accomplish this by removing or eliminating invasive exotic species that have impaired the integrity of these systems, and by otherwise improving habitat conditions that will allow native populations to recover from past degradations and to survive future challenges. Protecting 21% of the islands' coastal waters through marine reserves has been a successful effort to accomplish the latter.[1370] Archeological research on the islands has provided valuable information to natural resource managers about the presence and abundance of various flora and fauna during the past millennia.

The park has been lauded for the restoration efforts of its resource management program, especially among professional conservation biologists and resource managers, but it has also been challenged. The most vocal criticism has come from animal rights activists, who continue to condemn any efforts to eliminate exotic species. In siding with the park, the courts have implicitly supported the principle that eliminating a population of introduced animals is a justifiable price for improving an entire ecosystem and preserving entire native species. Where exotic management has played a part in restoration efforts, the intent has been to remove or eliminate only isolated populations of individuals that significantly threatened the integrity of an island ecosystem. In doing so, the intent of resource managers has been to protect and restore whole species that, in some instances, were in danger of extinction. Resource managers have attributed a higher biological priority to the preservation of a species, or the habitats that support assemblages of species, than to the preservation of a handful of exotic individuals that threatened those species. But this important distinction was lost on many animal rights activists, some of whom reject the very concept of a species as a meaningless abstraction.[1371]

In the end, the Northern Channel Islands have benefitted from the committed efforts of park natural resource managers, despite cacophonous criticism of their restoration objectives and occasionally of their ethics by animal rights people and some local media sources. The bald eagle has been successfully reintroduced. Other seabirds, such as the brown pelican, Scripps's murrelet, and the double-crested cormorant, are increasing in numbers. The Island fox has made a remarkable recovery and now exists in numbers approaching its pre-crisis population on all of the affected islands. Invasive sweet fennel remains a problem on Santa Cruz Island, as do other exotic plant species, but the principal sources of disturbance that led to its establishment and subsequent dispersal have been removed, and the infestation is at least contained. Santa Barbara Island has had the least successful ecological restoration but with concerted effort by the National Park Service and volunteers it may still be returned to ecological integrity.

In 2012, a natural resources panel reviewed the original Leopold Report and offered recommendations for the centennial of the National Park Service. The members took into account the advances in science and the dynamism of natural processes. They also tried to

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1370 This management strategy is consistent with goals that have been recommended by the Science Committee of the National Park Service Advisory Board in a recent reevaluation of the 1963 Leopold Report, "Revisiting Leopold: Resource Stewardship in the National Parks" (2012). This committee has proposed that the overarching goal of NPS natural resource management should be the preservation of ecological integrity within a context of continuous change. See Lary Dilsaver, ed., *America's National Park System: The Critical Documents*, 2nd edition, (Lanham, MD: Rowman and Littlefield, 2016), 450.

1371 Robert Puddicombe's comment--"To me the idea of species is just an abstract concept… These animals are here and alive now. Their lives have value."

balance their recommendations with the allied mission of providing education and recreation to the public. Their report stated:

> *The overarching goal of NPS resource management should be to steward NPS resources for continuous change that is not yet fully understood, in order to preserve ecological integrity and cultural and historical authenticity, provide visitors with transformative experiences, and form the core of a national conservation land- and seascape.*
>
> *Continuous change is not merely constant or seasonal change; it is also the unrelenting and dynamic nature of the changes facing park systems expressed as extreme, volatile swings in conditions (such as unexpected, severe wet seasons) within long-term trends of change (such as decadal droughts). Variations in environmental conditions, including extreme events like catastrophic wildland fires, hurricanes, and droughts increasingly exceed historic experiences. Significant uncertainty exists regarding responses of park ecosystems and historical resources to these conditions. It is an essential finding of this committee that given the dynamic and complex nature of this change, the manager and decision maker must rely on science for guidance in understanding novel conditions, threats, and risks to parks now and in the future.*
>
> *Ecological integrity describes the quality of ecosystems that are largely self-sustaining and self-regulating. Such ecosystems may possess complete food webs, a full complement of native animal and plant species maintaining their populations, and naturally functioning ecological processes such as predation, nutrient cycling, disturbance and recovery, succession, and energy flow.*[1372]

Channel Islands National Park may never eliminate all the unwanted floral exotics from the islands and some species such as the Santa Barbara song sparrow are gone forever, but elimination of exotic animals, continued suppression of aggressive exotic plants, and enforcement of no-fishing marine reserves offer hope that ecological integrity is being improved.

PRESERVING CULTURE AND HISTORY

The cultural resources of the park have not received the staff attention and public acknowledgement that the natural resources have, but this is not due to their inferiority in importance. Most of the discussion during the legislative history of Public Law 96-199, the park's enabling act, revolved around preservation of the natural habitats although archeological and paleontological resources were cited as reasons for establishing a national park. Nods were also given to preserving the ranching history of Santa Rosa and Santa Cruz Islands by sympathetic legislators and Superintendent Ehorn. Those resources have had varied levels of attention and funding. The discovery and investigation of Late Pleistocene and Early Holocene archeological sites on the islands is revealing significant information about the islands' earliest inhabitants as well as the peopling of North America and a likely coastal migration route. The

1372 Dilsaver, ed., *America's National Park System*, 2016, 450.

lack of development on the islands and their isolation from the mainland have acted to protect them to a great degree from disturbance and looting. Consultation with the Chumash elders and tribal members regarding archeological research, interpretation, and park planning has improved relations with the local Chumash community. The islands continue to offer excellent opportunities for future archeological research, especially if techniques are developed to access underwater sites that were exposed land during the Ice Age era of Santarosae.

Similarly, the islands' rich paleontological record includes numerous plant and animal fossils that illuminate the past natural history of the California coastal region. Although one might suggest that these are actually "natural" resources, their similarity in recovery methods to archeology has meant they are included with cultural resources in this report. The recovery of a 20–25-million-year-old specimen of a sea cow in 2017, a possible intermediate mammoth specimen, neither Columbian nor pygmy, in 2014, and a virtually complete pygmy mammoth skeleton in 1994 have excited scientists, the media, and the general public. The cast of the latter on display in the park's mainland visitor center is a focus of attention for visitors. These paleontological resources and the discovery of such early human habitation are great reasons to preserve the islands in the national park system even without such compelling natural resources.

The story of ranching and other pre-park economic pursuits has not commanded the attention that Bill Ehorn hoped they would. Ranching on the two larger islands hearkened back to much earlier methods and tools than those that survived in mainland California. Extensive use of horses, cowboy-crafted ropes and saddles, and the culture of the mostly Hispanic employees, especially on Santa Rosa Island, would have permitted a lively interpretation of a bygone era of ranching in US history. The bitter conflict on Santa Rosa Island and the end of destructive sheep presence on Santa Cruz Island meant that the animals and the people involved in these traditions were gone by the end of the 20th century. Preservation of many of the buildings and landscape features has been expensive but there is no doubt that removal of the livestock, restoration of the natural landscape, and accommodating thousands of visitors has changed the character of the historic ranches. Nevertheless, the Channel Islands National Park interpretation staff is working hard to preserve and interpret the historic ranch buildings, landscape, and history on the islands.

PROVIDING TRANSFORMATIVE EXPERIENCES AND EDUCATION

Interpretation and education form the second half of the dual mission of the National Park Service, to conserve the resources "unimpaired" and to "provide for the enjoyment of the same" enshrined in the NPS Organic Act. Interpretation of the park's resources and the agency's mission has evolved from person to person talks on Anacapa Island in the 1960s to a complex program of outreach to the general public through publications, websites, and social media, exhibits, and an extensive educational outreach program including on-site programs, school visits by rangers, distance learning via Channel Islands Live, and island interpretation and community outreach provided by a large network of volunteers. The wildlife webcams and the public and educational live interactive programs broadcast via Channel Islands Live are extraordinary and accessible to the entire world. The development of the underwater video program on Anacapa Island that now incorporates underwater, terrestrial, the JASON Project with Bob Ballard, the intense educational outreach to local schools, and the establishment of Internet access to interpretation in the park have all broadened the audience for the park. The decision in the 1990s to focus on a wider audience rather than the visitors who, by the very fact

that they have reached one of the islands have shown their heightened awareness of the park and the agency's mission, is part of the adaptation by the National Park Service to new technology and evolving public attention and attitudes.

All parks must provide infrastructure for visitors, develop educational materials and programs, and provide opportunities for certain noninvasive types of recreation. At Channel Islands National Park these prescriptions are complicated by the fact that the land areas and resources of the park are found on six different locations separated from one another by the Pacific Ocean. Every element of the infrastructure, including roads and trails, buildings for staff and visitor uses, resource management equipment and storage, expensive and continuously threatened piers and landings, as well as maintenance of historic structures requires travel in boats, planes, or helicopters. The US Navy and the Coast Guard have helped, especially during the superintendency of William Ehorn. But the costs have been an order of magnitude higher than those for most continental parks. One result was the fortunate employment of imaginative and capable people such as Bob Besett, Kent Bullard, Tim Glass, Earl Whetsell and their crews who found ways to work in and around official procedures to build much of the infrastructure themselves. Volunteers have increasingly served as interpreters on the islands as enhanced resource management demands, protection responsibilities, a shift of interpretation to include the digital world, and a general understaffing of the Park Service nationwide have limited the number of traditional interpretation rangers available away from the busy mainland visitor center.

Transportation of staff, visitors, supplies, and equipment to and from the islands is costly, interrupted by weather events, and time consuming. Boats are necessary for every purpose including the patrolling of half the park's acreage in the ocean. During the monument era, boats were smaller and not as safe. Several sank. Today the fleet is larger, more diverse, and exponentially more expensive. Channel Islands has benefitted from an outstanding relationship with Island Packers and excellent service from Channel Islands Aviation. New concessions, including kayak rentals on Santa Cruz Island, and the prospect of lodging operations on Santa Rosa Island in the future will enhance the visitor experience. Camping, snorkeling, diving, hiking, and nature exploration are well established and popular.

The role of the law enforcement ranger has evolved with the park. While their responsibilities for protecting the resources and providing a safe visitor experience are the same, the park ranger's role as island manager on each of the islands has decreased as the ranger staff has shrunk. The marine patrol function now has a dedicated crew with new and better boats for carrying out their duties on the water. With increased visitation to the islands and surrounding waters there are more visitor injuries and rescue operations. Illegal fishing, resource damage, vandalism, archeological thefts, and other crimes have been joined by drug and human smuggling.

In carrying out these functions, the National Park Service has enjoyed cooperation and assistance from many partners on the islands and in nearby communities including The Nature Conservancy, the US Navy, the US Coast Guard, Channel Islands National Marine Sanctuary, and the California Department of Fish and Wildlife. Vital too are the contributions of concessioners Island Packers, Channel Islands Aviation, and Santa Barbara Adventure Company. Numerous universities, museums, and nonprofit groups maintain park museum collections and conduct research, inventory and monitoring, restoration, and education activities on the mainland and park islands. Park partners the Western National Parks Association and Channel Islands Park Foundation help to educate visitors and raise funds for the park. Organizations like the California Native Plant Society, Master Gardeners, and others

have steadfastly contributed funds, labor, research, and expertise to help the park operate. Equally important has been the contributions from the Channel Islands Naturalist Corps and hundreds of other volunteers who do the work of dozens of FTEs.

What does the future hold for Channel Islands National Park? In addition to the ever-present threat of disestablishment of the park or, indeed, the entire national park system by politicians, a number of questions come to mind. Will the US Navy ever relinquish control of San Miguel Island and allow the National Park Service to fully manage it? Will TNC eventually donate more or all of its property on Santa Cruz Island to the Park Service? The Main Ranch could well become a central location for visitor infrastructure. Will the State of California decide to follow marine scientists' recommendations and increase the size and effectiveness of the marine reserves beyond their current 21% of park waters? All three of these potential changes would benefit either the coordinated protection of resources or the provision of space for a substantial increase in visitation, or both. Will continued efforts to remove exotic organisms overcome the danger posed to native species by fennel, ice plant, rats, and Japanese brown alga? What will be the result of climate change on the warming and potentially shrinking islands? So many species are at their limits on these tiny island habitats. What more will we learn about the earliest inhabitants of the islands as well as the paleontological remains of creatures that may have disappeared as they arrived? Will the National Park Service succeed as it tries to protect these ancient relics and human remains from erosion, vandalism, and a rising sea level? Will the park allow more visitors with additional modes of transportation from mainland sites and how will such an understaffed ranger force provide safety and law enforcement at its many interesting but potentially dangerous cliffs and coastal waters? Will outside events like smuggling and theft diminish the resources? Finally, what will be the long-term effect of shifting the focus of interpretation beyond park visitors to a worldwide audience of online enthusiasts? Channel Islands National Park is one of the most complicated and ecologically varied units in the system or, for that matter, in the world. Its story has lessons for the preservation and enjoyment of protected areas around the planet.

APPENDIXES

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APPENDIX A: CHANNEL ISLANDS SUPERINTENDENTS

Channel Islands National Monument

Eivind T. Scoyen (Sequoia NP)	January 1939 – July 1941
John R. White (Sequoia NP)	July 1941 – October 1947
Eivind T. Scoyen (SEKI)	November 1947 – January 1956
George A. Walker [Acting] (SEKI)	January 1956 – May 1956
Thomas J. Allen (SEKI)	May 1956 – January 1958
Donald M. Robinson (CABR/CINM)	January 1958 – September 1963
Thomas R. Tucker (CABR/CINM)	September 1963 – May 1967
Donald M. Robinson	May 1967 – April 1974
John O. Cook (Acting)	April 1974 – June 1974
William H. Ehorn	June 1974 – March 1980

Channel Islands National Park

William H. Ehorn	March 1980 – July 1989
Timothy J. Setnicka (Acting)	July 1989 – November 1989
C. Mack Shaver	November 1989 – March 1996
Timothy J. Setnicka	March 1996 – October 2002
Jack Fitzgerald (Acting)	October 2002 – December 2002
Terry D. Hofstra (Acting)	January 2003 – May 2003
Russell E. Galipeau Jr.	May 2003 – May 2018
Ethan McKinley (Acting)	July 2018—March, 2019
Ethan McKinley	March 2019—Present

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APPENDIX B: CHANNEL ISLANDS NATIONAL MONUMENT / PARK DIVISION CHIEFS

Chief Rangers

Robert White	1963–1968?
Vern Appling	1967–1969
Herb Hunt	1970–1974
Mack Shaver	1974–1977
Craig Johnson	1977–1980
Rob Arnberger	1980–1983
James Martin	1984–1987
Tim Setnicka	1987–1988
Jack Fitzgerald	1988–2009
Dave Ashe	2010–2015
Travis Poulson	2015–2018
Mark Hnat	2019–present

Chiefs of Maintenance

Kermit “Bob” Besett	1970s–1990
Tim Glass	1990–2008
Karl Bachman	2009–2016
Sterling Holdorf	2016–present

Chiefs of Transportation

Bob Besett	1990–1992
Dwight Willey	1995–1997
Rhonda Brooks	1997–2012

Chiefs of Interpretation

Bruce Craig	1979–1984
Mary Gibson Park	1984–1985?
Cindy Nielsen	1985?–1989
Carol Spears	1989–2001
Yvonne Menard	2001–current

Chiefs of Resource Management / Natural Resource Management

Frank Ugolini	1983–1989
Kate Faulkner	1990–2015
Ken Convery	2016–current

Chiefs of Cultural Resource Management

Ann Huston	1998–2014
Laura Kirn	2014–current

Administrative Officers

Chris Horton	1967–1994
Grace McGrath	1994–1999

APPENDIX C: ANNUAL VISITATION 1963–2019

1963	1,200	1982	172,287	2002	613,935
1964	1,500	1983	205,024	2003	585,919
1965	1,600	1984	203,411	2004	537,716
1966	300	1985	164,132	2005	434,107
1967	15,700	1986	172,913	2006	375,256
1967	15,700	1987	174,607	2007	360,806
1968	31,000	1988	168,592	2008	332,177
1969	33,100	1989	152,662	2009	348,745
1970	32,000	1990	144,083	2010	277,515
1971	24,400	1991	149,263	2011	242,756
1972	31,947	1992	169,181	2012	249,594
1973	44,700	1993	184,867	2013	212,029
1974	31,000	1994	175,226	2014	341,161
1975	74,400	1995	525,882	2015	324,816
1976	92,600	1996	490,715	2016	364,807
1977	87,200	1997	488,757	2017	383,687
1978	46,416	1998	74,270	2018	366,250
1979	82,937	1999	607,057	2019	409,630
1980	104,574	2000	482,571	Total	13,102,292[1373]
1981	87,514	2001	520,428		

[1373] Info from: https://irma.nps.gov/STATS/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20(1904%20-%20Last%20Calendar%20Year)?Park=CHIS

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APPENDIX D: ANNUAL APPROPRIATIONS AND FULL-TIME EQUIVALENTS BY FISCAL YEAR

The budget information presented below is the annual congressional appropriation for each fiscal year (FY) from the Operation of the National Park Service (ONPS) budget. The regional office may add to or subtract from this amount, so that the actual park operating budget is usually a different number. The park also receives funds annually for different projects and programs (Cyclic Maintenance, Repair & Rehabilitation, Cultural Resources Preservation Program, Natural Resources Preservation Program, and other fund sources), which are not reflected in the numbers below.

The FTE numbers (full-time equivalents) shown here are the authorized number that the park was allocated each year, and encompasses full-time, part-time, seasonal and other employees. The actual number of FTEs used by the park each year may vary from the authorized amount.

FY	Budget	FTEs	
1974[i]	$189,900		
1975[i]	$198,700	9 perm, 4 other than perm.	
1976[i]	$204,800	9 perm, 5.2 other than perm.	
1977[i]	$261,200	13 perm, 2.4 other than perm	
1978[i]	$318,000	13 perm, 2.4 other than perm	
1979[i]	$336,300	13 perm, 2.4 other than perm	
1980[i]	$381,100	15 perm.	
1981[i]	$490,500	17 perm.	
1982[i]	$695,000	17 perm, 6 less than FT positions	Additional funding and FTEs received to establish the marine sanctuary program
1983[ii]	$782,400	24	
1984[i]	$840,600		
1985[ii]	$937,800	34	
1986[i]	$1,010,400	36.1	
1987[i]	$1,340,558	+8 FTE	Additional funding and FTEs received for operations on Santa Rosa Island
1988[i]	$1,441,980		Additional funding received for operations on Santa Rosa Island
1989[i]	$1,428,600		
1990[i]	$1,582,000		
1991[i]	$2,055,000	51	
1992[i]	$2,803,300	59	Base increase of $800,000 and additional FTEs for I&M and maintenance

FY	Budget	FTEs	
1993[i]	$3,002,300	66	Base increase of $144,000 for I&M
1994[i]	$3,192,000		
1995			
1996			
1997[ii]	3,557,000	62 FTE	
1998[ii]	4,076,000		
1999			
2000[ii]	$4,287,000	69 FTE	
2001[ii]	$4,389,000	65 FTE	
2002[ii]	$4,958,000	67 FTE	Base increase of $498,000 for pig eradication on SCI
2003[ii]	$4,964,000	69 FTE	
2004[ii]	$4,934,000	66 FTE	
2005[ii]	$5,833,000	69 FTE (8 foxes, 3 marine)	Base increase of $484,000 for island fox recovery and $326,000 for marine patrol
2006[ii]	$5,909,000	69 FTE	
2007[ii]	$6,028,000	67 FTE	
2008[ii]	$6,767,000	69 FTE	Base increase of $499,000 for marine patrol and $119,000 for seasonals
2009[ii]	$7,030,000	68 FTE	
2010[ii]	$7,597,000	69 FTE	Base increase of $390,000 for Mediterranean Network historic preservation crew
2011[ii]	$7,454,000		
2012[ii]	$7,547,000	74 FTE	
2013[ii]	$7,092,000	70 FTE	
2014[ii]	$7,240,000	69 FTE	
2015[ii]	$7,331,000	73 FTE	
2016[ii]	$7,537,000	67 FTE	
2017[ii]	$7,577,000	62 FTE	
2018[ii]	$7,682,000	57 FTE	
2019[ii]	$7,631,000	60 FTE	

[i]Budget and FTE information from Superintendent's Annual Reports, CINP Archives, Cat. No CHIS 13117.

[ii]Budget and FTE information for 2000-2019 is from *United States Department of the Interior Budget Justifications and Performance Information* (NPS Green Book), accessed on March 23, 2020 at: https://www.nps.gov/aboutus/budget.htm. For other years, the information was accessed for each individual year via google search.

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Abbreviations used:

CINM	Channel Islands National Monument
CINMS	Channel Islands National Marine Sanctuary
CINP	Channel Islands National Park
NPS	National Park Service

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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under US administration.

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THE OCEANIC PARK

AN ADMINISTRATIVE HISTORY OF CHANNEL ISLANDS NATIONAL PARK