

**SUPERINTENDENT'S
ANNUAL REPORT
YOSEMITE NATIONAL PARK
1991**

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1991 HIGHLIGHTS

January

- o The year 1991 was the fifth year of drought.
- o Jan. 8--The announcement was made that the park concessioner YP&CCo. was sold to the National Park Foundation effective on Feb. 1.
- o Jan. 16--Community Peace Project Against War in Gulf demonstrated in El Portal and called their campaign "No Blood for Oil."
- o Jan. 20--Mariposa Grove closed for three weeks due to hazard-tree removal.
- o Jan. 22--Western Regional Director Stanley Albright decided to permit rebuilding in Foresta if landowners meet all county sanitation codes.
- o Jan. 28--Badger Pass closed due to lack of snow. It reopened and closed again on Feb. 19.

February

- o Chief Ranger Roger Rudolph transferred to Olympic National Park, and Chief of Concessions Wayne Schulz retired from the park service and began working for the Mariposa Chamber of Commerce.

- o Feb. 18--Chad Austin Youngs, age 17, of Davis, CA, was killed while scrambling above Sunnyside Campground.
- o Feb. 19--Bear, mosquito, and yellow jacket activity is noticed, all unseasonably early.
- o Feb. 25--Foresta homeowners met with NPS Director Ridenour, Secretary of the Interior Lujan, and National Inholders Association President Cushman in Washington.
- o Feb. 28--March 5--A major storm brought relief to drought-stricken Sierra. On March 4, 7.92" of rain was received.

March

- o March 21--Four special-use permit holders in Foresta were given a 90-day notice to vacate the premises.
- o March 27--A 40-ton boulder closed Big Oak Flat Road from Crane Flat to the El Portal Road at the dam.

April

- o April 1--Ticketron outlets closed north of Ventura and Reno. Ticketmaster bought Ticketron.

- o April 6-7--Senator Frank Murkowski (R Alaska) visited the park.
- o April 16--The Sierra Club announced their transportation plan recommendations.
- o April 22--A Foresta meeting was held in the park with National Inholders Association President Charles Cushman attending.
- o April 22-- Interagency proposal for backcountry-use limiting numbers of people in groups from 25 to 15 was announced.

May

- o May 1--The Sierra Club announced plans for "Range of Light National Park."
- o May 1-5--The Wilderness Society held transportation workshops at Marriott's Tenaya Lodge in Fish Camp.
- o May 13--Immigration and Naturalization Service dedication and naturalization ceremony for 100 new citizens was held in Yosemite Valley.
- o May 13--A river rescue, a drowning, and a climbing fatality occurred in Yosemite Valley today.
- o May 14--A major search for a 37-year-old female Stanford physicist was initiated. She was later found in good condition.
- o May 20--Mono County plowed two miles into the park from Tioga at no cost to the NPS.
- o May 20--Two building permits were issued to Foresta land-owners.

- o May 23--Tioga Road opened and then closed due to a road-surface problem. It opened again on May 24, and on May 26, it closed and reopened due to a 50-100 ft. collapse that occurred at 4:30 p.m. CalTrans helped with reopening efforts.
- o May 24--The Glacier Point Road opened at noon.
- o May 25--A major river rescue occurred with car in river at Bridalveil. Two children and one woman drowned in this accident.
- o May 26--The Traffic Management Plan was implemented for two hours.

June

- o June 4--A successful river rescue of two girls, 12- and 13-years-old, occurred in El Portal.
- o June 5--Yosemite Newsletter changed publishing frequency from bi-monthly to monthly.
- o June 7--Yosemite Fund press conference with Exxon and Pac Bell was held.
- o June 7-9--The Secretary of the Interior announced free entrance days for military personnel and families in appreciation for Operation Desert Storm.
- o June 8--Two unrelated drownings occurred in Wawona.
- o June 8-9--Congressman George Miller (D CA) and Jerry Brown visited the park.
- o June 15--Trip Lease expired today. A grace period from June 16-July 31 was

given for buses. Beginning August all buses without authorization will be denied access to the park.

- o June 24--The Inspector General issued a report that YP&CCo. owes three million dollars on its trip lease.
- o June 26--A press conference was held to acknowledge the beginning of a park-wide recycling program with DOW Chemical Company, Huntsman Chemical Corp, and the NPS.

July

- o July 1--The amendment to the GMP for the concessions contract is announced in the Federal Register.
- o July 5--A 23-year-old woman slipped into the Merced River and drowned. This is the seventh drowning this year.
- o July 6--Oversite hearing at the Marriott on transportation and housing. Congressmen Richard Lehman, Bruce Vento, Bill Richardson, Ron deLugo, Jim Jontz, and six staff members attended.
- o July 8--Seven members of "Sierra Green" attempted to block construction of the new housing being built at Hodgdon Meadow.
- o July 11--Werner Beinstingl, 29, Austrian researcher at University of California--Santa Barbara, was swept over Yosemite Fall. This was the eighth water-related fatality this year, the 12th fatality to date.

August

- o Aug.--Melvin Belli initiated 21 tort claims against the NPS regarding the Foresta fire

losses.

- o Aug. 5-6--Secretary of Interior Lujan, his wife, and Press Secretary Steve Goldstein visited the park.
- o Aug. 5--Letters requesting back-rent payment were mailed to employees.
- o Aug. 12-15--Senator Wyche Fowler (D GA) visited the park.
- o Aug. 14-15--Neal Sigmon, staff member on the House Appropriations Committee and Kevin Gergley visited the park and toured Yosemite Valley and El Portal.
- o Aug. 19--A major search began for 24-year-old Mike Little from Pleasanton who became lost in the Cherry Lake/Lake Eleanor area. He was found on Aug. 21 in good shape.
- o Aug. 19-24--Senator Bennett Johnston (D LA) visited the park as the guest of YP&CCo. President Ed Hardy.

September

- o Sept. 4-16--Mark Wellman and Mike Corbett climbed Half Dome as a fundraiser for the Western Los Angeles County Council of the Boy Scouts of America and The Yosemite Association.
- o Sept. 17--Senate approved \$300,000 transportation study for Yosemite, Yellowstone, and Denali National Parks.
- o Sept. 20--YP&CCo. sale to the National Park Foundation was signed.
- o Sept. 24--MISTIX was awarded the contract to operate Yosemite campground

reservations.

- o Sept. 24--"ILL Fire" closed the Glacier Point Road. Major fire suppression effort was conducted. Heavy smoke conditions in Yosemite Valley, and the visitors were advised of possible health risks. The fire was contained on Sept. 27 and controlled on Sept. 29.
- o Sept. 26--The Hetch Hetchy Campground was dedicated.
- o Sept. 27-28--Sean Burchell, legislative liaison, visited the park.

October

- o Oct. 1--The time-capsule was buried, marking the end to the centennial.
- o Oct. 9-10--A search for an male English visitor missing in the Wawona area ended with him found in good condition.
- o A body was found near Bridalveil Meadow with a gunshot wound in the head, an apparent suicide. The victim's car had diplomatic plates from Mexico.
- o Oct. 25--The Tioga Road was closed due to snow.
- o Oct. 26--The Glacier Point Road was closed.
- o Oct. 27--There was a rescue on El Capitan of four climbers stranded from a sudden storm. An Air National Guard helicopter brought in Sacramento press to cover the event.

November

- o Nov. 2--An unidentified body of a white male was found at Glacier Point and was recovered on Nov. 4.
- o Nov. 11--The Tioga Road reopened.
- o Nov. 14--The Tioga Road closed due to ice on the road on the east side.
- o Nov. 18--The Tioga and The Glacier Point Roads closed for the season.
- o Nov. 29--Yosemite Valley experienced 40 mph winds. Campgrounds, all tents, and some two-story housing were evacuated for 15 hours.

December

- o Dec. 31--Three-year legislated moratorium on 2,000 ft. above-the-rim restrictions on overflights ends.

ADMINISTRATION DIVISION

The Administrative Officer transferred to the Southwest Regional Office in December. Prior to that time, he served as Acting Assistant Superintendent and the Personnel Officer served as Acting Administrative Officer from May through the balance of 1991.

BUDGET & FISCAL

Beginning October 1990 the Park Service converted to the Federal Financial System (FFS) which continues to be unresponsive to our needs. The financial reports generated by this system are erroneous, difficult to read, and untimely.

Park-wide funding for fiscal year 1991 was as follows:

	ONPS	Other	FTE
Superintendent	289,390	28,327	4.6
Safety	132,083	0	2.0
Concessions	180,209	0	5.2
Protection	3,494,654	797,382	140.3
Admin.	1,462,738	0	44.4
Resources	849,878	26,500	34.4
Interp.	1,108,210	170,100	39.9
Maintenance	6,658,547	1,099,395	210.7
Total	14,175,709	2,121,703	481.5

INFORMATION MANAGER

- o Coordinated the purchase and installation of 43 additional computers and associated peripherals (nearly a 50% increase) and monitored more than \$200,000 worth of computer-related spending.
- o Doubled the size of the electronic mail system.

- o Improved the ability to develop network and stand-alone database applications locally.
- o Completely redesigned the proposed El Portal Maintenance complex information system and began planning for parkwide networking.
- o Provided more than 263 employee-hours of formal training for 87 employees in 24 classes.

CONTRACTING OFFICE

- o Denver Service Center projects included the continuation of the Yosemite Valley Electric Rehabilitation Project with Phases III & IV completed and Phases V and VI getting underway.
- o The El Portal Housing, Phase II, got underway in November.
- o PacBell completed the removal of telephone cable from along Southside Drive. They are continuing with removal of cable along Highway 41.
- o This was a record year for contracting. We issued 31 prime contracts (1990=14) and 126 complex purchase orders (1991=56).
- o The major project was the testing of Yosemite's underground storage tanks and the subsequent removal of 17 underground storage tanks, along with soil remediation at selected sites.
- o Contracting issued 23 NPS-20 agreements (1990=8) plus a few modifications to existing agreements. One of these was the agreement to start charging for ambulance

runs. The funding from this agreement will go toward the Park's EMS training program.

PROCUREMENT AND PROPERTY MANAGEMENT

Property Management

- o A park-wide inventory of all capitalized equipment was completed.

Procurement

- o Implemented the "Third Party Draft" system for procuring supplies and services which resulted in the number of purchase orders issued cut in half.
- o Trained six additional decentralized buyers in the outlying districts to procure supplies up to \$2,500.00 to improve the efficiency of the turn-around-time for requisitions.

Warehouse

- o Bar-code inventory was implemented which allows tracking for quicker, more efficient sales.

PERSONNEL

Staffing

- o We had a Job Fair that was open to the public in which approximately 23 NPS employees participated. These employees represented their occupational group (i.e., mechanic, trails, building and grounds' occupations, concessions, personnel, utilities' occupations, etc.), and they gave out information pertaining to their field. The fair was a great success, and we are

planning another fair for 1992.

- o There were approximately 63 vacant positions at the beginning of 1991. During the course of the year approximately 55 positions were filled.

Classification

- o The rewriting of the park's Position Management Plan is still being completed.
- o A number of back pay claims were filed with the park by employees and former employees claiming pay differential for stand-by duty for the past six years.

Employee Development

- o This year Yosemite National Park participated in the Servicewide Intake Program by appointing Bruce Phillips as park ranger in June.

HOUSING

- o The housing of government employees throughout FY91 escalated with the hiring of more long-term temporary employees, filling lapsed vacancies on the permanent roster, and the advent of a longer visitation year.
- o Very little private rental housing in the county and townsite of Mariposa is available, and more and more employees need assignments in government-provided housing. Three additional single-family homes in the headquarters area were used to house up to twelve temporary employees for six months. An El Portal house and four trailer sites were pressed into action for accommodating seasonal employees also. Up to twelve requests to

house VIPs and others were denied for lack of available bed space during the summer season.

- o Construction and rehabilitation of houses eliminated the use of eight units for periods of time throughout the year (six months to one year). The loss of cabins and bed space in Foresta resulting from the 1990 fire cut drastically into the seasonal bed availability.
- o Total income for permanent housing totaled \$581,909 while expenditures amounted to more than \$753,800. Seasonal housing income totaled \$47,128 with expenditures totaling \$85,805. Housing initiative funds provided amounted to \$282,041.
- o Site preparation, infrastructure, and the construction of three, three-bedroom houses, and two, two-bedroom duplexes began during the fiscal year. Rental rates were adjusted from updated inventories as a result of a new California survey. New rates resulted in slight increases and, in some instances, lowered rates (a reflection of more accurate inventories of housing units' conditions). No rental change required incremental adjustments.
- o The collection of rents from May 1, 1983, through June 21, 1986, by a court-ordered injunction was initiated in late July by the NPS under the direction of the Western Regional Office in cooperation with the Accounting Operations Division, NPS. New bills of collection were issued to effected persons, changing an earlier (1988-89) decision to allow installment payments without interest (except on default), to installment payments with interest.

INTERPRETATION DIVISION

- o Members of the park interpretive staff and several VIPs participated in two videotape productions, "Interpretive Critiquing" by Bill Lewis and a VIP recruitment/training video by WRO.
- o Audiovisual Production Specialist Bob Roney completed a training video on the peregrine falcon for the U.S. Navy. The production is intended to discourage aircraft pilots from flying at low altitude over the park by emphasizing the need to protect this endangered species. Roney also completed a new taped slide program on fire management, using the 1990 Yosemite fires as the focal point.
- o The park signed a Memorandum of Understanding with two private companies to produce a large-format film for the park and to remodel an existing auditorium as a theater to accommodate the production. Both the film and the theater would be donated to the NPS.
- o The Yosemite Association approved more than \$300,000 in financial aid-to-NPS in 1991.
- o The park participated in Black History Month with an exhibit and a special program. EO Committee member Raye Santos, Interpretive Division secretary, also produced a special exhibit featuring Hispanic employees in the park.
- o Chief Interpreter Len McKenzie headed two special task groups, one to develop a drought contingency plan for the park and the other to evaluate the Tenaya Lake and Yosemite Creek campgrounds and formulate alternatives and recommendations for

future use.

- o Six portable exhibits interpreting the Merced River restoration project and fishery study were produced.
- o The interpretive staff cooperated with YP&CCo. in developing interpretive tray liners and drinking cups. The cartoons were provided by *San Francisco Chronicle* cartoonist Phil Frank ("Farley").
- o The interpretive staff worked with Bill Snodgrass of Dow Chemical Co. to promote the new recycling program funded by Dow and to develop interpretive media and materials. Chief Interpreter Len McKenzie participated in a two-city media tour to launch the program in June. A new exhibit, funded by Dow, will be installed in the Valley Visitor Center this spring.
- o The giant sequoia round that was removed from the front of the Yosemite Museum when it was closed in 1967 was returned to that location in July.
- o Personnel changes in the Interpretive Division included: Bruce Fincham, who had been Valley District interpreter for many years became division project manager, while Cherry Payne moved from Mather District into his position. Roy Irving, Valley District field interpreter supervisor, transferred to GRCA. Sue Austin from Wawona District was selected as his successor. Mark Wellman resigned to pursue Olympic skiing and climbing activities. Valerie Pillsbury became the division's financial assistant. Research Librarian Linda Eade was converted from

temporary to PFT. Sylvia Martinez was placed in a PLTFT position after completing the Cooperative Education Program.

VALLEY DISTRICT INTERPRETATION

- o Rewrote the "A Changing Yosemite" trail text and refurbished the numbered markers along the route.
- o Expanded the Deaf Services Program from one full-time sign language interpreter to two, which allowed for coverage in the Valley Visitor Center seven days a week and sign language interpretive services in the Wawona and Mather districts.
- o Installed a "Valley Formation" video in the visitor center, funded largely through the donation box.
- o Contributions to the Indian Cultural Exhibit donation box were so great in 1991 that we hope to fund a seasonal position in 1992 from those donations.
- o Mark Wellman and Mike Corbett completed "The Climb" of Half Dome, which was intended to be a fundraiser for the Boy Scouts and the Yosemite Association.
- o Earth Day and John Muir's birthday were again celebrated with a Valley cleanup day involving visitors, a talk by Lee Stetson as John Muir, and a bagpipe band from McLane High School in Fresno.
- o The orientation slide program in the Valley Visitor Center was discontinued indefinitely beginning in November pending correction of some major electrical code violations.

- o The Valley TIS was taken out of service in the fall when the phone cable that carried the recorded message from the recording equipment in the visitor center to the transmitter a mile away was removed.

WAWONA DISTRICT INTERPRETATION

- o Worked closely with the maintenance staff and the Yosemite Fund to complete restoration of the Degnan Bakery at the Pioneer Yosemite History Center (PYHC), then opened the bakery and incorporated it into the living history program.
- o Continued to offer ever-popular special events such as star parties, Old-Fashioned Christmas in Wawona, Fourth of July parade, and barn dances. In addition, many 75th anniversary programs which dealt with natural and human history topics were offered.
- o Seasonal park rangers produced text and art for ten new interpretive signs to be installed in 1992 in the Upper Mariposa Grove.
- o The Environmental Living Program at the Pioneer Yosemite History Center served more than 700 students from throughout California. Demand for training resulted in an increase from one to two training weekends for teachers in the fall.
- o Sue Austin worked with Concessions Management to provide a two-day training course to YP&CCo. transportation employees.

MATHER DISTRICT INTERPRETATION

- o Porcelain-enamel interpretive signs were produced for the Tuolumne Grove self-guiding trail, frames were assembled, and the displays were installed.
- o Interpreter Carl Sharsmith returned to Tuolumne Meadows, and his 60-plus years continued to inspire the staff and visitors.
- o Draft text and design concepts were developed for new exhibits at Hetch Hetchy.
- o New text was written for the Soda Springs self-guiding trail.

PROJECT MANAGER

- o Established the Project Management Branch and detailed Valley District Interpreter Bruce Fincham as project manager. Unfortunately, no funds exist to continue the position in FY92.
- o The project manager completed 94 projects and initiated 63 others which are now in progress. Due to lack of funding for the project manager position, many of these ongoing projects will be seriously delayed.
- o Designed and produced rafting information and a river management brochure.
- o Coordinated the design and installation of Happy Isles Habitats artwork with interpretive text panels by Larry Eifert. A popular attraction at Happy Isles Nature Center, the project was funded by the Yosemite Association.

- o Coordinated the design and installation of two new interpretive waysides at Lower Yosemite Fall. A special dedication ceremony was held on October 1 with the Yosemite Fund and Union Bank, which funded the project.
- o Coordinated 14 special events for the NPS 75th anniversary, including five concerts by Eric Tingstad and Nancy Rumbel on and around August 25. About 3,500 visitors attended these events.
- o This was the most productive year yet for the teacher intern program, funded by the Yosemite Association. Five teachers produced an outstanding variety of lesson plans endorsed by Dr. Clifford Bee, UCSD, internationally recognized expert in curriculum development.
- o Assisted Mariposa County Unified School District with development plans for an outdoor education classroom.
- o Assisted Mariposa County Chamber of Commerce with development plans for improved information services for Yosemite-bound visitors.
- o Acquired a variety of resource training materials for the promising start of a Park Employee Development Center. Funded by the Yosemite Fund.
- o Completed final base maps and communicated designated addresses to all valley residents for the Valley Street Names and Address Project.
- o Arranged and coordinated a productive three-month ranger exchange assignment for Rod Atkins, Brisbane Forest Park, QNPWS, Australia. Rod produced a teachers' guide for the Mariposa Grove.
- o Assisted with conference planning and coordinated arrangements for presentations with other agencies at the Third Global Congress of Heritage Interpretation International, 11/3-8/91, Honolulu, Hawaii. Chief Interpreter Len McKenzie presented a paper, "Yosemite: A Case Study in Building Partnerships for Interpretation, Preservation, and the Travel Industry," at the Congress.
- o Coordinated the design and production of four waysides, funded by AQD, to interpret air quality. Production is in progress through HFC.
- o Awarded a contract, funded by the Yosemite Fund, and coordinated on-going planning efforts for exhibit rehabilitation at Happy Isles Nature Center. Expanded the VIP exhibit crew to 14 to assist with NPS part of exhibit rehab work.
- o Planned the Yosemite Centennial Time Capsule ceremony October 1. Coordinated the collection, inventory, registry, display, and packing of contents; site preparation; dedication ceremony; and burial.

***PUBLIC AFFAIRS OFFICER/
PUBLIC INFORMATION OFFICE***

- o Produced more than 50 press releases and had more than 4,000 media contacts.
- o Worked with the Tioga Pass Council on improving relations, mutually beneficial openings of the road, and improving communications.
- o Was the park contact for all coordination

of the Wellman/Corbett climb after the permit was approved. Became the park liaison with Wellman, the Boy Scouts, the media, other divisions, and YP&CCo. Determined all aspects of media coverage of the event and provided in-depth information and assistance to Ellyn Windsor of the Boy Scouts in every aspect of the climb and its coverage by the media. Public Affairs Officer Lisa Dapprich received an award from the Boy Scouts for her assistance.

- o Coordinated publicity for the May 13 Immigration and Naturalization Service dedication and naturalization ceremony and assisted with preparations for the event.
- o Coordinated all aspects of the July 6 Congressional hearing with Congressmen Vento, Miller, and Lehman, including receptions, raft trips, and all other aspects of their visit.
- o Coordinated all aspects of Secretary Lujan's visit to the park on August 5-6.
- o Prepared a comprehensive media strategy/events planning document for the USS Arizona Memorial 50th anniversary event.
- o Was part of a special events team for the USS Arizona Memorial's 50th anniversary event.

Public Information Office

- o Designed and developed the matrix and text for the new Microlog automated attendant. Trouble-shot problems for the new system.
- o Completed a disabled visitor's brochure in

the new site-bulletin format.

- o The PIO staff answered more than 35,000 information calls and more than 10,000 written information requests.

CURATORIAL SERVICES BRANCH

- o Finished and reopened the new entryway to the Indian Garden behind the museum building. A ceremony honoring Exxon for its donation to the project was held by the NPS and the Yosemite Fund in June.
- o Started an inventory of photographic material in the Curry archives.
- o A total of 21 museum loans were made to other institutions, including 648 items lent for exhibit or research.
- o Acquired the Schwabacher collection of baskets and ethnographic material.
- o Completed *Tradition and Innovation: A Basket History of the Indians of the Yosemite-Mono Lake Area*. The book was funded by the Yosemite Fund and published by the Yosemite Association.
- o Rehabilitated more than 600 specimens preserved in alcohol; replaced fluids, rebottled and relabeled specimens.
- o Added 178 accessions to the collections during the fiscal year, up 14% from 1990.
- o Completed and submitted more than 4,400 catalog cards, documenting more than 4,600 objects, to the National Catalog.

Visuals Center

- o Hung five exhibits in the Valley Visitor Center, including the Renaissance VII art exhibit.
- o Installed one exhibit in the Yosemite Museum gallery after the centennial exhibit was removed October 1.
- o Provided 9,369 slides for 169 orders.
- o Accessioned 1,349 new slides.

Research Library

- o Purchased 136 volumes, including nine rare items.
- o Accessioned 243 volumes.
- o Cataloged and processed 231 volumes.
- o Circulated 2,310 items, including 868 books, 493 periodicals, and 499 photographs.
- o Public contacts averaged 212 visitors and researchers and 112 phone calls per month.
- o Completed 31 photo orders using negatives from the Research Library's collection.
- o Assisted researchers for 16 major projects, including film and newspaper research.

Archives

- o Cataloged the Yosemite Park & Curry Co. archives. A calendar of the papers is forthcoming. The company granted an

extension of the interim storage agreement because the NPS does not yet have a storage facility to accommodate them.

- o Cataloged 200 newly copied oral history tape recordings.
- o Accessioned five groups of new records into the archives.
- o Compiled resource notes on eleven 7.5-minute topographic maps.
- o Photographed and described three trails for nomination to the National Register with the Denver Service Center.
- o Worked extensively with the Historic American Engineering Record on their survey of historic roads and bridges in Yosemite.

Wilderness Historic Resources Survey

- o Successfully completed the fourth season of the survey.
- o Printed and distributed the 1989 Season Report of the Wilderness Survey.
- o Surveyed the exposed floor of Hetch Hetchy Reservoir for historic resources and helped coordinate protection and further survey of the area.
- o Resources recorded by the Wilderness Historic Resources Survey include:

1991	Total Recorded
170 blazes	902 blazes
2 buildings	15 buildings
18 structures	40 structures
12 trails	47 trails
1 other feature	6 other features

MAINTENANCE DIVISION

MAINTENANCE MANAGEMENT SYSTEM

- o Hodgdon Meadow contract (modular units) completed; El Portal contract (modular units) completed; 12 months of MMS data collected and sent to WRO; El Portal maintenance plans and specifications are 75% completed.
- o The division assisted the NPS Historic American Engineering Record (HAER) team during the summer with data gathering for their study of Yosemite's roads and bridges and the subsequent publishing of a brochure, "Highways in Harmony, The Story of Yosemite's Road System."

BUILDINGS AND GROUNDS

Wawona District

- o Removal and site restoration of surveyed property:

Williamson two-story house, Deed 351, Tract 07-120 and Hodgkinson two-story house, Deed 259, Tract 01-121.
- o Handicap Improvements:

A-Loop Wawona Campground - established a handicap campsite now designated as site 9.

South Entrance to Mariposa Grove roadside picnic area--established a handicap vault toilet with paved walkways and a handicap picnic site.

Restoration and construction of 400 feet

of split rail fence in the Mariposa Grove and Pioneer History Center. This project was designed to protect natural resources and provide better visitor access.

Obliteration of unused and misused trails in the Upper Mariposa Grove. This work was completed by the CCC with directional input from Interpretation. Estimated close to two miles of trails obliterated.

The Housing Initiative Program enabled us to reconstruct unsafe decks on four houses, replace or improve 12 heating systems, remodel two bathrooms, rewire five units and make structural repairs to four houses.

PG&E funded an Energy Conservation Program that resulted in energy improvements to 33 residences.

Valley District Buildings and Grounds

- o Housing Initiative Rehab:

Conducted major rehabilitation to three valley residences.

Installed or replaced wood stoves and/or fireplace inserts to make heat systems more efficient and economical for eleven of the Valley quarters.

Major asbestos abatement to three of our quarters and a four-plex apartment.
- o Indian Gardens Accessibility Renovation:

Construction of accessibility concrete walkway from existing museum to Indian Garden area. Includes bench seating drain system, and landscaping.

- o Museum Renovation at Valley District Building:

Remodel interior portion of Museum area to facilitate Indian Cultural Displays. Structural work, electrical, glazing, painting, and floor coverings.

- o PG&E Weatherization Partnership Program:

Completion of weather proofing and insulation to 47 of our 71 Valley residences.

- o Radon Mitigation:

Radon proofing at VA00056 historical building referred to as the "Ranger Club" in compliance of XXX and Radon Mitigation.

Mather/El Portal District Buildings and Grounds

- o Housing Initiative Program:

Insulated the walls of 18 Mission 66 Houses in the Rancheria area and refinished the stucco on six of them. Replaced the electrical heating and air conditioning systems on four Mission 66 houses with gas heating/air conditioners.

- o PG&E Energy Improvements:

PG&E funded the insulation of residence attics, crawl spaces and piping; caulked and weatherstripped doors and windows; installed water heater blankets, low-flow shower-heads, and energy-efficient lamps in all houses in the district.

- o Hetch-Hetchy funded projects:

Opened the new Hetch-Hetchy backpackers campground; remodeled the Mather ranger residence into a ranger station office.

- o Research facility improvements:

Remodeled a garage into additional office space for research staff.

ROADS AND TRAILS BRANCH

- o 90% of Park trails were cleared of logs.

- o 185 miles of trail maintenance was accomplished.

- o Repaired badly damaged mortar in rock wall on the Vernal Fall Trail.

- o Repaired major slide-damaged sections on Rancheria and Pate Valley trails.

- o Completed reconstruction of Donahue Pass Trail with CCC labor.

- o Reconstructed Gravelly Ford Trail.

- o Began reconstruction of May Lake/Tenaya Lake Trail with YCC labor.

- o Completed construction of boardwalks in Sentinel Meadow, the Mariposa Grove, and Stoneman Meadow.

- o Constructed two new bridges and redecked eight more.

PARK ROADS

- o The Hodgdon Road crew worked from June through October on the road system for the new housing project at Hodgdon. Ten thousand cubic yards of material

were moved with 676 person-hours of labor.

- o The Tioga Road failed just west of the east entrance within hours of spring opening. Three hundred feet of road collapsed causing crews from NPS, Mono County, and CalTrans to work for four days before re-opening.
- o Approximately eight miles of road on Hwy. 120 and on Big Oak Flat Road were chip-sealed last season causing some delays which held up more than 750 cars in one line of traffic for over 20 minutes. Chip-sealing took place in August, including Big Oak Flat Entrance, Crane Flat, one section of the Big Oak Flat Road near Foresta, and a section of Northside Drive in Yosemite Valley.
- o A 3800-ton/hr rotary was purchased for \$356,000 to replace a 1967 Snowblast rotary.
- o Construction of the new Sentinel Bridge was delayed until 1992 because of contractual problems.
- o The park forester and the forestry crew were transferred from Resources Management to the Maintenance Division/Roads and Trails Branch effective October 1, 1991.

RECYCLE PROGRAM

- o In a partnership with the Dow Chemical Company and Huntsman Chemical Corporation, the National Park Service has placed over 300 recycling containers throughout the park. Nearly 100 tons of recyclables were collected and diverted

from the landfill in the first six months of the program.

UTILITIES AND ENGINEERING

High-Voltage Electric Shop

In 1991 the electric shop oversaw the Electric Rehabilitation Project in Yosemite Valley (473A-H) and oversaw and completed electric service rehabilitation of approximately 20 electric service entrances belonging to the concessionaire that were failing or in violation of the National Electric Code because of age or the new construction.

Backcountry Utilities

The Maintenance Management System was upgraded to accurately track where money for personnel services was spent. By doing this we recorded time that was utilized performing work for the park concessionaire. The government was then capable of being reimbursed for services provided which came to approximately 50 percent of the unit's budget.

Backcountry Utilities designed and began construction of composting toilet facilities at Little Yosemite Valley and Nevada Fall. The use of these new facilities will be more environmentally sound and will replace chemical toilets now in service.

Valley Utilities

- o The Ticketron office in Yosemite Valley was winterized.
- o The infrastructure for the new houses at Hodgdon Meadow was completed.

El Portal Utilities

The main accomplishments of the El Portal Utilities Branch beyond normal operation and maintenance for 1991 were:

- o Removal of old liner and installation of new liner at the upper pond in Tuolumne Meadows. This \$165,000 job was necessary because of failure of the old liner and subsequent leakage of the pond to the Tuolumne River. The project had to be accomplished quickly during a small window of time between spring opening and fall winterization and coordinated with regular disposal of normal summer flows.
- o Denver Service Center sludge alternatives study on the El Portal Wastewater Treatment Plant. Assisted the DSC with formulating sludge management alternatives in view of construction of the new maintenance/warehouse facility. Several tests and experiments were performed for the DSC by testing of existing sludge treatment operations and experimentation with different possibilities for thickening, clarification and disposal.

Wawona Utilities

- o The installation of the Muffin Monster at the Wawona Wastewater Treatment Plant on the suction side of the digester pumps saves approximately \$300 per week in costs of maintenance. It also saves wear and tear on the pumps themselves. Large particles can no longer scrape and deteriorate rotor and stator.
- o Installation of a new pressure reducing station at Glacier Point has lowered the pressure from 200 psi to 75 psi. Now

there is much less wear and tear on the equipment and fewer leaks which makes it much safer to work with fire apparatus.

- o Installation of Lift Station #7 enables seven residences to abandon their septic and leachfield systems and tie into the Wawona collection system. These residences are located along the South Fork of the Merced River which has been designated as a Wild and Scenic River.

DIVISION OF CONCESSIONS MANAGEMENT

- o The Yosemite Park and Curry Co., a subsidiary of MCA, Inc., was sold to Matsushita Electrical, Inc., a Japanese firm. Subsequently, the YP&CCo. was sold to the National Park Foundation.
- o Numerous projects relating to the development of a new concession contract to replace the Yosemite Park and Curry Co. were either initiated or carried over from the previous year. These projects include building assessment conducted by an architecture and engineering firm of all structures operated by the concessioner, development of the Concession Services Plan, development of a draft Operating Plan, and development of a draft Maintenance Agreement.
- o As a result of the sale of the Yosemite Park and Curry Co., the "trip lease" program was abolished effective June 16, 1991. The Division of Concessions Management issued approximately 1,600 individual pieces of correspondence to commercial transportation providers regarding the termination of the trip lease program. The Concessions Management staff fielded approximately 500 telephone

calls on this subject. Approximately 500 Letters of Authorization have been issued to transportation providers.

- o The staff conducted approximately 20 rate studies in response to concessioner's requests to increase prices for goods and services.
- o Pat Quinn reviewed the Loss Control programs in place at the Ansel Adams Gallery and Yosemite Park and Curry Co. He initiated the development of Loss Control programs with the El Portal Market, El Portal Chevron, and Yosemite Medical Clinic.
- o The park began negotiating with potential suppliers of "clean burning fuel" vending machines. The staff reviewed proposed composite fuels and a prototype vending machine. This project will be carried over until the spring of 1992 for final selection of a vendor to provide wood vending in the valley auto campgrounds.
- o Pat Quinn facilitated a review of the Wawona Golf Course by the United States Golf Association.
- o Mary Risser began negotiating with the California Energy Commission and Pacific Gas and Electric to test a prototype electric vehicle in the park.
- o Shuttle transportation service was extended to the Tuolumne Meadows area.
- o The Concessions Management staff completed annual contract compliance reports for all five concessioners. Approximately 350 periodic evaluations were completed for concessioner services.

- o The Concessions Management staff issued/renewed approximately 15 Commercial Use Licenses during 1991. Superintendent Michael Finley issued a moratorium prohibiting the issuance of additional commercial authorizations effective October 24, 1991.

- o The Division of Concessions Management hosted approximately 25 official foreign visitors during 1991.

- o The staff issued approximately 40 permits for commercial filming during the year.

DIVISION OF VISITOR PROTECTION

FIRE MANAGEMENT

Park fire battalions responded to fires (24), motor vehicle accidents (24), public assistance calls (10), SARs (39), hazardous situations or HAZ MAT (11), air operations (76), false alarms (36), and dumpster fires (23) for a total of 243 calls.

Helicopter Use

The Park helicopter made 40 flights for initial attack and 75 flights in support of other park operations. A second pad at Crane Flat was installed improving safety.

Wildland Fire

There were 72 numbers issued for wildland fires. Eleven support actions and three mutual-aid responses occurred off-park. The park received severity funding to supplement its staff including a second helicopter due to the drought. The main portion of the fire season turned out to be cool with burning indices ten points below average.

Prescribed Fire and Hazard Fuel Management

Prescribed fires burned 112.6 acres. Numerous hazard fuel projects in developed areas were completed in Wawona and El Portal. For the first time private residences were inspected and fire safe standards enforced.

PRESCRIBED NATURAL FIRE

There were 20 prescribed natural fire numbers issued and 1,304 acres burned. Two fires had to be converted to wildfires due to smoke management considerations and suppression costs were approximately \$1,700,000.

TOTAL ACREAGE BURNED

A total of 7,225 acres burned within the Park in 1991. All fires were of relatively low intensity, and there were only occasional areas which burned as crown fire or had high scorch heights.

LAW ENFORCEMENT OFFICE

Jail Operations:

For the second year in a row the Yosemite Holding Facility established a new all time record for in-custody prisoners with 794 arrests. The arrest total was 3.7% greater than the old mark of 766 established in 1990, and a 41% increase since the 561 arrests in 1987.

New all-time monthly arrest records were established in January, August, October, November, and December of 1991.

Prosecution:

The Yosemite Paralegal staff prosecuted approximately 1200 cases in the local Magistrate's Court in 1991. These cases consisted of:

- 949 petty offenses
- Approx. 300 Class A misdemeanors
- 12 Felonies
- 5,202 CVB violations

Criminal Investigations:

Law Enforcement Office Investigators conducted 68 investigations in 1991. Ten of which were considered major, long-term investigations consisting of interagency operations in the investigation of continuing criminal enterprise. Several arrests are pending in the first quarter of this year in conjunction with these investigations.

In the major investigations five felony arrests were made to date, with convictions in each of those cases.

Major NPS/U.S. Army interdiction campaign was conducted to locate and eradicate marijuana gardens. Four sites were rehabilitated in conjunction with this operation.

Tort Investigations:

In 1991 the Law Enforcement received, investigated, and processed 51 tort claims against the U.S. government. A substantial amount of time and effort has gone into the processing of the Foresta fire claims.

Internal Investigations:

The Law Enforcement Office conducted approximately six internal investigations involving weapons, employee misconduct and theft in 1991.

WILDERNESS DISTRICT

Wilderness use increased about 10% in 1991 to approximately 68,000 overnight users and 600,000 day users. A summer staff of 24 (2 permanent, 1 subject to furlough, 12 seasonals, and 9 volunteers) and a winter staff of 6 (2 permanent, 1 STF, and 3 VIPs) comprised the backcountry unit.

Daily Activities:

Patrol

- o More than 8,000 miles patrolled (foot/horse & mule/ski).
- o More than 66,000 visitors contacted in the wilderness.
- o 1,414 hours spent in restoration/rehabilitation.
- o More than 1,000 pounds of trash were removed from the wilderness.
- o 221 hours were spent on SARs.
- o There were 71 emergency medicals.
- o There were 175 law enforcement incidents.

Wilderness Permit Staff

- o Maintained the quota system for 96 trailheads.
- o Number of groups educated at stations: 16,500
- o Number of people issued permits at stations: 47,000
- o Permit reservations made: 2,214
- o Phone calls answered: More than 10,000

Additional Activities:

Additional activities this season included completion of 32 snow surveys, organizing and hosting the second Interagency Wilderness Training Academy, participation in USFS National Wilderness Management for Line Officers training program, and hosting six special wilderness trips. Wilderness staff served on a interagency wilderness education committee, made presentations at interagency meetings, and worked cooperatively with 15 other wilderness areas to formulate and adopt, through the Federal Register process, a consistent maximum group size of 15 people/25 head of stock. A climbing management program was started late in the year.

MATHER DISTRICT

Bob Johnson was reassigned to Yosemite Valley in April after 11 years as the Mather District Ranger. During January and February, three of the permanent fee personnel transferred or left the service. Personnel changes forced the district to place many of the permanents and long-time seasonals into acting positions.

Statistics

Arrests	90
MVA's	130
Ambulance Runs	94
SAR's	42
Bear Incidents	173+
Fatalities	2
Money Collected	\$2,437,406 (up 11%)

Significant Events

Fee Collection:

- o Opened the new Hetch Hetchy Backpackers Campground in August
- o Tenaya Lake remained closed this season due to a water problem.

Canyon Ranch:

- o Little Search at Lake Eleanor - a two-day joint effort by the park and Tuolumne County. Little was found by park helicopter.
- o Low levels of water in the Hetch Hetchy Reservoir uncovered several major archeological sites near the headwaters.
- o Rangers assisted with dispute over water distribution to Evergreen Lodge and Camp Mather (ongoing).

Big Oak Flat:

- o Central Sierra Green demonstrated against the building of the new homes in Hodgdon. One person was arrested.
- o Assisted with the multi-park investigation of pipe safe break-ins, suspects were caught outside the park.
- o Two rescues on sugar pine hill required technical rescues.

Tuolumne Meadows:

- o Fourteen-year-old girl committed suicide at Lower Lyell Base Camp while on a pack trip.
- o Solo free climber fell to his death on Fairview Dome.

- o Watershed Rangers increased the number of miles hiked and ridden during 1991. Additional site rehabilitation projects completed.

VALLEY DISTRICT

Fee Collection

Arch Rock Entrance Station

This record year included 373,619 vehicle entries with 1,180,000 million persons and \$808,865 collected. Over 46.7% of the bus traffic entering the park entered through this entrance and approximately 33% of the total Park's visitor entries. The workload was increased significantly due to the change in the Trip Lease agreements. Excessive carbon monoxide levels were discovered at this and other entrances this year with mitigation circumstances under review.

Valley Campgrounds

Yosemite Valley hosted some 648,558 camper nights in 1991. The Campground Reservations contract was awarded to MISTIX in December.

Law Enforcement/SAR/EMS

The valley district accounted for 613 (77%) of the park's record 794 arrests. The largest percentages of these were drug-and/or alcohol-related. This was the most violent summer ever, except perhaps for the 1970 riot. Five rangers were assaulted. Over 1000 case incident cards were pulled. A major cooperative effort was made (twice) with the CHP to inspect buses entering the park. This resulted in the discovery of numerous violations, the correction of which should help to prevent major bus accidents/

incidents within the park. There were over 225 SARs with the last two weeks in May tallying 13 rescues, including river and big wall incidents, and six fatalities for the District alone. The district totalled some 17 fatalities. The ILL FIRE caused the helicopter evacuation of some 80 people from Little Yosemite Valley. We spent \$6,500 on a wind emergency in December.

The Mariposa County-Yosemite Fire Department in El Portal was reorganized this year with El Portal rangers being integrated into the unit. There were three fatalities in the El Portal Subdistrict, 362 case incidents, seven arrests, 37 EMS incidents, ten SARs, and 102 MVAs.

An emphasis was placed on the removal of abandoned and unlicensed vehicles in the El Portal area. Over 20 vehicles have been removed. In addition, several citations were issued for non-compliance of fire debris clearance regulations.

The DARE program was initiated and was successful with Chris Cruz taking the lead. Classes were conducted at the Yosemite and El Portal schools, with the initiation of a program at the Wawona school.

WAWONA DISTRICT

Winter drought conditions greatly impacted the Badger Pass ski operations with low snow accumulations causing the periodic opening and closing of alpine and nordic services.

The district experienced substantial snowfall during the month of March where Badger Pass went from a tract to over 100 inches of snowfall. In Section 35, over three hundred trees fell and/or their tops broke-out during

the back-to-back storms causing numerous power outages (six days at one time), road closures, and damage to residences.

The "Miracle March" snowbase caused high runoff flows in the South Fork of the Merced river with over 1,500 cfs at the peak. Unusually high-water flow, compared to the past five years levels, was instrumental in the occurrence of two drownings on the same day in May.

Preliminary work began on the FHWA/DSC reconstruction project for Chinquapin intersection and the removal of the old Gas Station facility.

Substantially upgraded the district SAR cache and negotiated use of the Wawona Volunteer Fire House for storage of the new NPS ambulance.

Traffic congestion and vehicle grid-lock continued to be a daily occurrence at the Mariposa Grove and South Entrance intersection from mid-May through September. Management of this operation required extensive involvement of both the fee collection and law enforcement staff.

SEARCH AND RESCUE

This year was a record-setting year for Search and Rescue in Yosemite National Park in all areas, disciplines, and districts. Park personnel responded to 225 incidents in 1991, as compared to 181 in 1990, and a previous record of 208 in 1986. The busy season began with a river incident in mid-May and continued at a record pace throughout the summer, culminating with three multi-day searches in September/October, and a dual rescue off El Capitan in late October.

ANNUAL REPORT OF SEARCH AND RESCUE OPERATIONS

CY 1991

REGION: WESTERN REGION

PARK: YOSEMITE NATIONAL PARK

SAR CONTACT: KELLY MCCLOSKEY

INCIDENT SUMMARY

<u>Type</u>	<u># Incidents</u>	<u># Inj/Ill</u>	<u># Fatals</u>	<u># NotI/I/F</u>
Hiking	<u>150</u>	<u>107</u>	<u>7</u>	<u>50</u>
Skiing	<u>10</u>	<u>5</u>	<u>0</u>	<u>5</u>
Climbing	<u>23</u>	<u>13</u>	<u>1</u>	<u>19</u>
Boating	<u>4</u>	<u>3</u>	<u>1</u>	<u>8</u>
Swimming	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>
Scuba	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Vehicle	<u>6</u>	<u>7</u>	<u>3</u>	<u>0</u>
Aircraft	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Stock	<u>5</u>	<u>5</u>	<u>0</u>	<u>0</u>
Mutual Aid	<u>7</u>	<u>3</u>	<u>0</u>	<u>2</u>
Unfounded	<u>9</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other	<u>8</u>	<u>5</u>	<u>2</u>	<u>0</u>
TOTAL	<u>225</u>	<u>150</u>	<u>15</u>	<u>84</u>
SAVES	<u>63</u>	<u>38</u>		<u>25</u>

TIME/COST SUMMARY

NPS programmed time	<u>4,525.0 hrs</u>	costs \$	<u>47,480</u>
NPS unprogrammed time	<u>11,930.0 hrs</u>	costs \$	<u>383,610</u>
Non-NPS time	<u>4,316.0 hrs</u>	costs \$	<u>45,025</u>
Total	<u>20,771.0 hrs</u>	Total	<u>\$ 476,115</u>
Military F/W time	<u>0.0 hrs</u>	costs \$	<u>0</u>
Military rotary time	<u>17.4 hrs</u>	costs \$	<u>14,000</u>
Non-military F/W time	<u>0.0 hrs</u>	costs \$	<u>0</u>
Non-military rotary time	<u>146.0 hrs</u>	costs \$	<u>142,751</u>
Total	<u>163.4 hrs</u>	Total	<u>\$ 156,751</u>

Climbing Management

In 1991 both National and Regional NPS Directives were issued in regard to climbing management. These indicated that park areas with climbing activity were to address climbing management.

In late 1991 a meeting with the ACCESS FUND, a climber-interest group, resulted in increased management interest in the project. In December of 1991 the formation of a Park Climbing Management Committee began. This group, to represent all divisions, and to include various points of view, has since been formed, and includes representatives from Wilderness, SAR, Visitor Protection, Interpretation, Resources, and Maintenance. The Wilderness Unit is spear heading the project. Initial plans include defining types of resource impacts, testing mitigation options, contacting climbers, and a variety of other data gathering techniques. An open dialogue with park users, including climbers as well as conservationists, is intended as part of the information-gathering process. Timeline for completion of a Climbing Management Plan will be in 1993.

DIVISION OF RESOURCES MANAGEMENT

NATURAL RESOURCE MANAGEMENT

HUMAN/BEAR MANAGEMENT

In 1991, 601 human/bear incidents were reported, with \$186,289 in property damage; increases of 33% and 64%, respectively, over 1990 levels. Vehicle damage (\$170,000) accounted for over 90% of all damage occurring primarily in vehicles located in the 500 campsites in

Yosemite Valley that are still without bear-proof food storage lockers. Considerable time was expended by the wildlife staff writing proposals to obtain funding for these lockers, but none is forthcoming. Work continued toward mitigation of human/bear conflicts with minimal staff and funding (.4 FTE). This included 26 captures of bears, 15 of which were translocated from developed areas of the park. No bears were killed in management actions although several were candidates due to increasingly aggressive behavior. No law enforcement campground patrols occurred. Wildlife personnel obtained funding and designed a new Bear Exhibit for the Valley Visitor Center. Backcountry human/bear conflicts continued at a high level, with at least one in seven of backpackers losing food and property to bears. Wildlife personnel initiated work on a backcountry canister rental/permit system.

FISHERIES MANAGEMENT

Wildlife Management personnel coordinated and provided logistical support for U.S. Fish and Wildlife Service and California Department of Fish and Game projects to evaluate fish populations and their habitats in the Merced River. This included maintaining communication among agencies, coordination of projects, administrative support, arranging accommodations, volunteer coordination, developing interpretive displays, and crowd control during data collection. Supervisory Wildlife Biologist coordinated an Aquatics Scoping Session in Fresno on December 5 with excellent input from state and federal agencies, private citizens, and local Fly Fishing Clubs. Evaluated data and wrote recommendations for fishing regulation changes for Yosemite for the 1992-1994

state regulations including a catch-and-release policy for rainbow trout in the Merced River and no bait fishing.

THREATENED, ENDANGERED, SENSITIVE SPECIES MANAGEMENT

Supervisory wildlife biologist met with state and federal wildlife agencies and heritage program personnel to review their wildlife data management networks and to obtain current TES state and federal listings. Updated Yosemite National Park TES list both in April and again in November for a total of 43 TES animal species including aquatic and terrestrial invertebrates, fish, amphibians, one reptile species, birds, small and large mammals, and seven plant species. Began pursuing funding sources and obtaining references for the establishment of a comprehensive long-term TES inventory and monitoring program for Yosemite. Provided updated TES list to park management staff, interpretive division, research scientist, and cooperating associations.

PEREGRINE FALCON MANAGEMENT

A total of four pairs of peregrine falcons were monitored in 1991. Of these, however, only two initiated nests and laid eggs; one at El Capitan and another at Hetch Hetchy. Eggshells collected from the El Capitan site in 1990 indicated that critical thinning was still occurring. Therefore, climbers were sent to this site in 1991 to exchange the eggs for captive-hatched young. Only one intact egg, however, was collected from the site, and even this egg proved to be inviable. The fostered young successfully fledged. The Hetch Hetchy pair fledged three young without assistance. A survey team searched the park for

additional pairs of peregrine falcons, but found none. A possible future nest site on Wawona Dome was enhanced to decrease water accumulation.

WILDLIFE DATA MANAGEMENT

In 1991, a total of approximately 2,500 historical wildlife observations and 200 new additions were added to the park wildlife data base for a total of nearly 5,000 observations. An additional 600 bear/human incident records were received and added to the bear management data base. The in-office reference library was expanded by a dozen volumes and a complete set of 7.5-minute topographic maps of the park were obtained for the TES species program.

MERCED RIVER RESTORATION

Sections of stream bank along the Merced River at Lower River Campground and El Capitan Picnic Area Dump were restored. Photo documentation was completed, then riprap was removed, 1,000 yds of dump material was excavated, banks were recontoured, followed by replanting with thousands of willow and cottonwood cuttings and seeds from native grasses and forbs, and 1,500 feet of temporary protective fenceline was constructed.

BLACK OAK WOODLAND RESTORATION

A ten-year restoration project plan was submitted and approved by the NEPA committee. The majority of field work was completed by Chevron Corporation volunteers consisting of work in four oak woodland areas of Yosemite Valley. Work included asphalt removal, eradication of social trails, seeding, planting and mulching,

and protective fence construction. Photo documentation was initiated and continued on all projects, and the status of oak seedlings and planted-areas were recorded and added to a dBase tracking program.

WILDERNESS IMPACTS MITIGATION AND MANAGEMENT

Thirty-three impacted campsites with forty-fire rings were restored, approximately 1.0 mile of unmaintained trail was backfilled and planted with native plant materials, and an additional 0.5 mile of partially-restored trail was maintained. Nearly 4000 transplants and propagules were planted on restored sites, and 3700 plants and a large quantity of seeds were collected for future use. Site surveys were conducted at three locations targeted for restoration in 1992. All projects were completed with NPS restoration staff supervision of volunteer groups from the Sousson Foundation, Sierra Club, Boy Scouts of America, Yosemite Association, Student Conservation Association, and general park staff.

ABANDONED ROAD OBLITERATION

A one-half mile section of the old Glacier Point Road was removed by ripping through and mixing in old asphalt, recontouring the slope, excavating stream channels, and replanting and mulching newly exposed bare ground. Work was accomplished using NPS resource management and maintenance workers, heavy equipment, and an 11-person Student Conservation Association inter-city work group. Photo documentation points were established to monitor regrowth along the old road corridor.

VOLUNTEER PARTICIPATION

During the 1991 ecological restoration season, many volunteer groups assisted the restoration staff with implementing projects. Over 12,008 person-hours were worked by 748 volunteers - the equivalent of six FTEs. The projects were located in the Cathedral Lakes Basin, Vogelsang area, May Lake, the Lyell Fork of the Tuolumne River, Pothole Dome, Soda Springs area, and Lembert Dome. In addition, The Yosemite Valley Oak Woodland and Merced River Restoration projects and the Non-Native Plant Eradication Projects were a priority for the volunteers. The Sierra Club, Student Conservation Association, Sousson Foundation, Yosemite Association, Yosemite Institute, Boy Scouts of America, Chevron, and NPS personnel donated their time and efforts.

NON-WILDERNESS MEADOW RESTORATION

Post-restoration photo documentation was completed at two meadows to assess the success of experimental trail obliteration techniques utilized in 1990. A 700-foot long boardwalk was constructed in Stoneman Meadow to restore natural surface drainage patterns. Approximately 125 acres were weeded in an effort to reduce populations of invasive non-native plant species.

SEQUOIA GROVE RESTORATION

A 400-foot long split-rail fence was reconstructed and an additional 30 feet of fence was constructed along the interpretive trail in the Tuolumne Grove using a Yosemite Association volunteer group. Technical advice was given to a Youth Conservation Corps group working on eliminating use trails and delineating planned trails in the Mariposa Grove.

FIRELINE RESTORATION

Ten miles of fire handline remaining from the 1990 fires were restored by a Student Conservation Association work crew with supervision by NPS restoration staff. A Yosemite Institute class did final work. Another 1.0 mile of dozer-built fireline was obliterated using NPS heavy equipment with the remaining 5.5 miles scheduled to be completed during the summer of 1992. All fireline photopoints were retaken to assess the success of rehabilitation methods and to provide visual documentation for a preliminary fireline obliteration report to be written in the winter of 1992-93. An additional 5.0 miles of handline was obliterated on the Ill and Frog fires from 1991.

RARE AND SENSITIVE PLANT MANAGEMENT

The Resource Management Division continued to review all projects with a potential for affecting sensitive plant species. A number of park projects were modified due to concerns about sensitive plants. One park plant species became a candidate for federal listing as a sensitive plant species, and the 1988 population surveys were reviewed for this species.

NON-NATIVE PLANT CONTROL

A draft proposal for an "Integrated Non-native Plant Removal Program" was written. Bull thistle and common mullein populations were removed from approximately 85% of Yosemite Valley with the help of volunteer groups and Yosemite employees. Resprouting black locust and elm trees were pruned back in an effort to kill the root systems without causing soil disturbances. Identifi-

fication of the Yosemite Valley apple and pear tree varieties were made using fruit and tree characteristics. Contacts were made with groups interested in preserving historic varieties of fruit trees.

FEDERAL HIGHWAYS REVEGETATION

1) The Sentinel Bridge construction plan and schedule were reviewed, and a slope stabilization and vegetation plan for plant salvage and planting adjacent to the new bridge and in the old bridge site was developed. A Yosemite Association volunteer work group salvaged 600+ perennial plants from the bridge site. Photo documentation points were set up to monitor progress of the construction project and rehabilitation work. 2) The Glacier Point Road project area was surveyed to identify native plant species and to develop a revegetation strategy. Seeds from nine native plant species and 700 cuttings were collected to be propagated by the Soil Conservation Service for revegetating disturbed areas after road construction. 3) The Big Oak Flat Road project was reviewed and corrections prescribed to solve the original problems of inadequate outloping, over-mulching, and application of non-photodegradable excelsior mesh over the cut slopes.

VIDEO TAPING DOCUMENTATION

This season's restoration projects have been video-documented. A member of the restoration staff spent two weeks with a BLM video crew receiving training in video planning, camera techniques, "field shooting," editing, and equipment maintenance, and production of a video on wilderness road removal and Merced River Restoration has been started.

FORESTRY ADMINISTRATION

A total of approximately 8,300 hazardous trees were removed through contracted tree removal services and the park forestry crew. One contract removed about 3,900 trees from the 1989 Foresta burn area, and about 3,100 trees were removed by contract due to drought/insect mortality.

The forestry crew also assisted with the Interagency ozone study conducted by the U.S. Forest Service by climbing and measuring the heights of several trees over 190 feet tall.

The Forestry Hazardous Tree Removal Program was transferred to the maintenance division in September.

AIR QUALITY MONITORING AND MANAGEMENT

Air quality data was collected but marginally analyzed. Visible ozone injury has been found on 29% of the Ponderosa and Jeffrey pines surveyed in the park. Acid deposition continues to be recorded; half the rainwater sampled has had pH values more acid than the normal precipitation range expected. Serious visibility impairment occurs on 90% of summer days from external and internal human sources.

Ozone bioeffects study was started with USFS and California Air Resources Board (CARB). The first permanent air quality technician was hired. Air Quality wayside exhibits were designed. PM-10 data filters were weighed in park for preliminary data. Staff participated in California's Sierra Summit and Federal Clean Air Partnership.

CONTAMINATED GROUNDWATER/SOILS REMEDIATION AND CLEANUP

The park has confirmed groundwater and soils contamination from leaking underground fuel storage tanks. The NPS, the park concessioner, Pacific Bell, and the City of San Francisco (Hetch Hetchy) have documented contamination. The NPS and the other entities will be continuing to remediate contamination. The NPS has also completed preliminary assessment of three other hazardous materials contaminated sites. These include the Yosemite Valley school yard storm drain, the El Portal Barium Mine tailings, and suspected PCB contamination in Yosemite Valley.

UNDERGROUND STORAGE TANK MANAGEMENT

A total of 22 underground storage tanks were removed from several locations. The specific number of tanks removed at each location were Tuolumne Meadows, five tanks; Chinquapin, nine tanks; Yosemite Valley, six tanks; Wawona, one tank; and El Portal, one tank. The number of active underground storage tanks is now 23. The NPS is continuing to reduce its underground storage tank inventory and thus reduce the associated risk of soil and groundwater contamination.

WATER RESOURCES INVENTORY AND MONITORING

Wawona water resources study was started by USGS. The USGS also conducted field studies of the Merced River Basin which is a part of the National Hydro-Benchmark Network. Lawrence Livermore National Laboratory conducted isotopic analysis of

well waters. Memphis State University completed a study investigating amoeba presence in park waters.

FLOODPLAIN STUDIES

Preliminary floodplain maps of Yosemite Valley were completed by Army Corps of Engineering.

ACID DEPOSITION MONITORING

Continued the Acid Deposition Monitoring program pursuant to an agreement with California Air Resources Board (CARB).

CULTURAL RESOURCES MANAGEMENT

Foresta Survey: Contracted with Dames & Moore for a documented survey, re-recording, and surface evaluation of a 1,650 acre parcel in the Foresta-Big Meadow area. Twenty-six prehistoric sites, three historic sites, and seven sites containing both prehistoric and historic components were identified. The impetus for the work was the 1990 A-Rock fire and related fire suppression activities, as well as planned hazard tree removal and revegetation measures.

El Portal Well Mitigation: Excavation at CA-MRP-358 in El Portal was undertaken to mitigate the effects of utilities development, as directed by the Yosemite GMP. The research design, fieldwork (involving excavation of 14 units), and a document summarizing the fieldwork results have been completed. Data analysis and the final report will be completed in FY 92.

Yosemite Valley Electric Mitigation: Data recovery at site CA-MRP-240/303 in

Yosemite Valley was undertaken in support of Phase VI of the Electrical Rehabilitation Project. The research design and fieldwork (involving excavation of seven units and a series of auger bores and shovel test units) have been completed. A fieldwork summary, data analysis, and the final report are scheduled for FY 92: additional funds are required.

Yosemite Valley Electric Mitigation: Data recovery at CA-MRP-825 in Yosemite Valley was undertaken in support of Phase VII of the Electrical Rehabilitation Project. The research design and fieldwork (involving excavation of five units and a series of auger bores and shovel test units) have been completed. Completion of a fieldwork summary, data analysis, and the final report will occur in FY 92: additional funds are required.

Hetch Hetchy Survey: Surface survey of approximately two miles of the exposed Hetch Hetchy reservoir bed yielded nine prehistoric sites two contained historic components as well. The purpose of the work was to identify archeological resources on the drought-exposed reservoir floor and, subsequently, provide protection for the sites until the water level rose to normal levels.

Wawona Road Survey: Inventory of cultural resources along the Wawona Road corridor continued in support of road improvement projects. Approximately 1,355 acres were surveyed, including Phase I--Chinquapin to Wawona; Phase II--Wawona to the South Entrance; and a small section of Phase III--Chinquapin to one mile south of Grouse Creek. One historic and two prehistoric sites were recorded. Additional funds will be required to complete the project.

Little Yosemite Valley Subsurface Survey: Auger testing at CA-MRP-89 was implemented for park clearance of an initial phase of the Little Yosemite Valley campground relocation project.

Monitoring of ground disturbance for installation of a Clivus Multrum toilet was also completed.

Yosemite Valley Timber Sale Monitoring and Continuation of 1990 Large-Scale Timber Sale Monitoring: Extensive hazard tree removal occurred this year on the Wawona Road, the Glacier Point Road, the Tioga Road, and in Yosemite Valley. Cultural resource avoidance procedures were employed (i.e., archeological sites were flagged and tree felling was closely monitored by an archeologist in the vicinity of sites).

El Capitan Dump Excavation and Monitoring: Data recovery and monitoring at the historic El Capitan Dump was undertaken in support of the Merced River Restoration Project. Four excavation units and 14 shovel test units were completed. Additional funds are required to complete the data analysis and final report in FY 92.

Frog Fire Survey: Survey of areas planned for fire line construction was completed during the Frog Fire, with no new sites discovered. Consultation with fire crew bosses also occurred regarding avoidance of previously recorded cultural resources.

Illilouette Fire Survey: Survey of areas planned for fire line construction and fire lines already constructed was completed during and after the fire. One new site was located in Little Yosemite Valley. Consultation with fire crew bosses also

occurred regarding avoidance of previously recorded cultural resources.

Pate Valley Pictograph Documentation: Metric photogrammetric documentation of the Pate Valley pictographs was begun, with the project to continue for two years. Products will include digitized Autocad files of the images, as well as a full range of photographic documentation. Additional funds are required to complete the project.

Archeological Clearance Program: Fifty-two archeological clearance surveys, data review, and consultations were completed for park projects; 17 archeological clearance survey reports were completed for filing with the Western Archeological and Conservation Center for park projects; categorical exclusions (NEPA) were provided with cultural resources management (CRM) consultations; and three Environmental Assessments were provided with CRM consultations.

Archeological Dating Correction Research: This project involves collection of soil temperature and soil moisture data for application to obsidian hydration dating correction. Two hundred, forty cells were buried on 35 archeological sites distributed between 2,000 and 11,500 ft in elevation. This is the first year of a two year project. Additional funds are required to complete the project.

PUBLICATIONS AND REPORTS

Final Reports Published:

The 1985 and 1986 Generals Highway Archeological Survey, Sequoia National Park, California, by W. Joseph Mundy. Yosemite Research Center Publications in

Anthropology No. 10.

FLAKES in the Central Sierra: Federal Land Agencies Keep Exploring the Sierra, by Suzanna Montague and Lisa Hanson, a paper presented at the 1991 Northern California Data Sharing Meeting of the Society for California Archeology.

Draft Reports Prepared:

Report of Archeological Data Recovery Excavations at CA-MRP-382, Mariposa County, California, by Kathleen L. Hull.

Flat Notes: Excavations at Crane Flat and Tamarack Flat, Yosemite National Park, by Kathleen L. Hull.

Data Recovery Excavation at Sentinel Bridge, Yosemite Valley, Yosemite National Park, by Suzanna Montague.

The Red Fir Archeological Investigations, Sequoia National Park, by W. Joseph Mundy.

Fieldwork Summary Reports Prepared:

YOSE 1990A and 1990C Housing Study and Road Corridor Surveys, by Lisa Hanson.

Itching to Dig: Subsurface Survey at CA-TUL-72, Sequoia National Park, by Suzanna Montague.

Limited Subsurface Survey at CA-TUO-236, Hodgdon Meadow, by Lisa Hanson.

Surface and Subsurface Survey at CA-TUO-214, Mather, by Lisa Hanson.

Archeological Survey of Proposed Timber Sale Areas, YOSE 1990J, by Virginia

Parks.

Data Recovery Excavations at CA-MRP-358, YOSE 1991B, El Portal, by Suzanna Montague.

Archeological Research Designs Prepared:

Archeological Data Recovery at CA-MRP-358, by Laura Laird and Suzanna Montague.

Archeological Data Recovery Excavations at CA-MRP-240/303, Yosemite Valley, by W. Joseph Mundy.

Archeological Data Recovery Excavations at CA-MRP-825, Yosemite Valley, by W. Joseph Mundy.

Data Recovery at the El Capitan Dump: CA-MRP-1196H in Yosemite Valley, by Suzanna Montague.

RESEARCH SCIENTIST

During 1991, the Research Office continued data collection on the vegetation analysis and fuel dynamics studies, initiated projects on global climate change and mid-sized carnivores, and completed the bighorn sheep study. In addition, one Park Service contract study on bull thistle ecology was completed, and final reports are expected for the contract study on great gray owls, and for the giant sequoia paleoecology, fire history, and ethnobotany studies.

The vegetation analysis project is designed to develop type and cover maps for the park using satellite imagery, GIS technology and field verification. The two field crews were able to establish 58 plots this past summer, bringing the total to 200 plots. Extensive

use was made of global positioning devices to find plots in remote backcountry locations.

Work on the fuel dynamics study continued to be directed toward determining accumulation rates for Sierra Nevada conifer species. The 26 fuel plots destroyed by the 1990 fires were reestablished and fall and spring fuel collections were made from all 112 plots. Fuels were sorted by size and species and then dried and weighed.

Initial steps were taken to establish permanent plots for the global climate change study. These one-hectare plots are designed to chronicle long-term ecological change. One plot was established near Hodgdon Meadow and over 3,000 trees were mapped and measured.

Reconnaissance of potential treeline sites for the second plot was conducted in the Tioga Pass area.

Funding for the mid-sized carnivore study was obtained from the Yosemite Fund, and the research proposal and study plan were written. This study will determine the status and distribution of the fisher, red fox, and wolverine, all recent candidates for listing as federal threatened species.

The bighorn sheep project was completed this fall after five years of investigation. The herd reached an estimated maximum of 62 sheep although only 49 sheep actually were seen during 1991. Mountain lions were the single largest source of mortality during the study with 10 confirmed sheep killed by lions. Management recommendations include continued monitoring of the herd and predator reduction until the herd reaches a viable

size.

The thistle ecology project was concluded with publication of the final report. As a result of this study, control techniques for the alien bull thistle were developed which could be used in concert with prescribed burning of meadows.

Final reports are in the preparation stage for the great gray owl study and will include visitor impacts, winter ecology, and status and distribution. Reports are also expected from the three giant sequoia studies. Pollen and charcoal dating over 10,000 years old have been found in sediment cores and fire scars have occurred throughout the 4,000-year tree ring record. Burning for basketry materials was the primary cultural use of fire.