OMB No. 1024-0018 Exp. 10-31-84

United States Department of the Interior National Park Service

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National Register of Historic Places Inventory—Nomination Form

received date entered

state

FSM

1. Name			
historic Nan Madol			
and or common			
2. Location			
street & number Temwen Island, Po	ohnpei (formerly spel	led Ponape) State	not for publication
Federated States of Micros	nesia/Trust Territory	· .	lat and adjacent coa
State of the Pacific Islandscom	de county	Porrupe Du	code 0/3
Category X district building(s) structure site object Dwnership public private X both Public Acquisition in process being considered	Status occupied unoccupied work in progress Accessible yes: restricted yes: unrestricted no	Present Use _x_ agriculture _x_ commercial _x_ educational entertainment government industrial military	museum X park X private residence religious scientific X transportation other:
owners hold the remaining street & number	Nan Madol Central as g territory within th	defined in part 7 ne archaeological (below; private land
city, town	vicinity of	state	
5. Location of Leg	al Description	n	
courthouse, registry of deeds, etc. Land	s and Surveys Office	, Kolonia, Pohnpei	•
street & number			
			COL/EDI
city, town Kolonia, Pohnpei		state	FSM/TTPI
	in Existing S		FSM/TTP1
6. Representation Micronesian parks		Surveys	
		Surveys Derty been determined eli	
6. Representation Micronesian parks Mittle Sketch Map #326 for Nan Ma	dol Centralhas this prop	Surveys perty been determined eli x_federal_x_stat	gible? <u>X</u> yes no

7. Description

Condition excellent _x_ good	deteriorated	Check one unaltered altered	Check one original site moved date	December	29, 1984
fair	unexposed				

Describe the present and original (if known) physical appearance

Nan Madol is the name traditionally applied to a complex of archaeological sites located along the east coast of Pohnpei Island in the newly formed Federated States of Micronesia. As an archaeological district, "Greater" Nan Madol (see, for instance, Saxe et al n.d.) includes areas referred to in the Pohnpeian oral histories as "Deleur". It encompasses the set of stone-walled artificial islets and channels on the reef adjoining Temwen Island known as the "city" (Kahnihmw), or Nan Madol Central; Temwen Island itself; the reef islets to the east and south of Nan Madol Central; the area north of Temwen called Metipw; and adjacent areas of the main island Madolenihmw District coast referred to as Tamwerohi or Lepweltik (see Map #1). Greater Nan Madol thus defined includes an area of 19 square miles (ca. 4921 ha). The remains of chiefly residential complexes, ritual structures, and tombs located on Temwen Island and in the Metipw area clearly link these areas to the development of the core district. Although the entire Nan Madol area has yet to be completely surveyed owing to its size and complexity, it is considered to be vitally important to an understanding of the workings of early Pohnpeian culture. Primary focus, however, should be directed to the district core as its architecture reflects the residential, ritual, and administrative characteristics which differentiated the highest ranking levels of the society.

The core of the Nan Madol ritual and residential area—which according to considerable ethnographic and ethnohistoric data (e.g. Riesenberg 1968, Bernart 1977) served as the seat of the ruling Sau Deleur dynasty in prehistoric times—is itself a complex archaeological district covering about .75 sq km of the tidal reef flat adjacent to Temwen Island (see Map #2). It contains over 90 major architectural units (stone and coral filled platforms creating artificial islets), up to about 115 by 100 m in size, built above tide level. Postholes found on several islets suggest the construction of thatched—roofed wooden structures on top of the platforms, similar to those known ethnographically. The name Nan Madol translates roughly as "within the intervals" and refers to the intricate network of tidal canals and waterways which border the islets and provided a means of travel and communication for their occupants. Most of these canals have long been overgrown with mangrove and altered due to silt accumulation resulting from this growth. The only one remaining in use today is that called Dauen Nan Kieil Mwahu ("channel of the good lizard") which transects the entire site on a NE/SW axis.

The roughly rectangular enclosing wall of Nan Madol Central is formed by twelve "seawall" islets framing the entire complex on the northeast, southeast, and southwest sides (Temwen Island forms the NW side). The foundations of these islets were all constructed of columnar basalt and large boulders, the latter particularly common in outer wall facings. Inside the foundation walls, the surfaces of the islets have been raised above sea level by the addition of coral rubble fill acquired from the reef flat. The interior islets exhibit a considerable range of dimensional variations, construction styles, and surface architectural complexity. Those located in the seaward (SE) one-third of the complex are relatively larger than the rest, while along the Temwen coast and extending on the inside of the SW segment of the seawall is a strip of mostly small, low islets presently subject to partial tidal inundation. This strip contains nearly one-half of the islets within the core of the complex.

Oral traditions separate Nan Madol Central into two sections. Madol Powe (upper Nan Madol) consists of the northeast half of the complex and ritual uses are associated with many of the islets in this section. Nan Dauas, located in Madol Powe at the eastern extremity of

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the complex (see Map #2), is the best known of the islets in the entire district since the megalithic architectural style characteristic of Nan Madol is most impressively expressed in its construction. The 50 by 60 m islet is constructed of long, naturally prismatic pieces of basalt used in walls built up over a foundation of large basalt boulders. Some of these boulders are estimated to weigh in excess of twenty tons. walls were erected utilizing basalt columns in a technique of systematic criss-cross or "headers and stretchers" such that the prisms are alternately stacked along and across the length of the wall (see, for instance, Athens 1980; Ayres and Haun n.d.a; Ayres, Haun, and Mauricio n.d.). This creates an inner and outer wall face of prismatic basalt with the core between filled with boulders, cobbles, coral rubble, and column fragments. At Nan Dauas the walls reach 8.1 m, the maximum height anywhere in the complex, and utilize prisms which in some instances are nearly a meter in diameter and several meters long. According to oral traditions, Nan Dauas was a ritual and burial center for the paramount chiefs of Pohnpei, known as the Sau Deleurs. Reports of human bones and grave goods collected from the substantial central tomb located within the outer walls of Nan Dauas tend to confirm this claim. (e.g. Humbruch Madol Pah &lower Nan Madol) consists of islets in the southwestern half of the complex which are ethnohistorically known for their secular use. Of these, the L-shaped islet of Pahn Kadira, covering an area of 12,770 sq m, is perhaps the most important and is traditionally considered to have been the residence of the Sau Deleur (See Map #4). With 39 architecturally significant features and 98 sub-features, it is also one of the most complex sites in Nan Madol. The same type of construction noted for Nan Dauas, but on a lesser scale, was also used at Pahn Kadira with its greatest elaboration demonstrated at the four cardinally-oriented and traditionally named corners of the islet. According to oral histories, each of these corners was constructed by specialized stone-fitters from the districts for which they are named (Sokehs, Madolenihmw, Kiti, and Kosrae). The largest stone structure (excepting the islet's circumferential wall) is a traditional house platform referred to as the Temple of Nan Kieil Mwahu (Temple of the good lizard) situated in the center of Pahn Kadira. The platform has three clearly defined steps on the SW and SE sides which lead to the rectangular top level with dimensions of about 19 by 37 m. Regularly spaced post-holes on this top level clearly indicate the former presence of a pole and thatch wooden structure here. Four other house platforms on Pahn Kadira are surrounded by enclosing walls constructed in the familiar header and stretcher fashion. The most important of these (demonstrated by the elaboration of the walls) is located adjacent to the west (Madolenihmw) corner and is traditionally thought to have been and actual residence of the ruler. A southwest "extension" attached to the roughly rectangular main portion of Pahn Kadira and outside of its primary enclosing wall, contains a large number of small, unelaborated house and cooking platforms thought to have housed the chief's attendants.

The two sections of Nan Madol Central tend to cluster around Nan Dauas (Madol Powe) and Pahn Kadira (Madol Pah) and these islets are the best described in oral traditions; however, a growing body of data, both archaeological and ethnohistorical, is being accumulated concerning other islets in the complex, particularly for Usendau in the upper portion and Wasahu and Pahnwi in the lower portion (see Map #2). The header and stretcher

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style of architecture utilizing walls of columnar basalt with coral rubble core-filling is a uniform construction technique characteristic of each of the islets in Nan Madol Central and to a certain extent in the outlying portions of the district as a whole. As noted above, considerable variation exists in the layout and architectural complexity of Nan Madol Central platforms, including differences in the quantity and size of basalt prisms and boulders used, likely representing differential use and status of the occupants.

Artifacts recovered from Nan Madol Central vary in both type and quantity from one islet to another. Major distinctions in artifact assemblages have naturally resulted from the time period of the individual sites but together they represent a sequence of occupation dating from at least A.D. 400 up to about the end of World War II. The collections of prehistoric artifacts described by the various researchers who have worked at Nan Madol represent the typical Micronesian tool-kit with its predominant reliance on shell for adzes, fishhooks, scrapers, etc. and limited use of lithic materials (see, for instance Ayres, Haun, and Mauricio n.d.; Athens 1980; Ayres 1983; Hambruch 1932). The early extensive use of pottery is evident from several Nan Madol excavations and poses very important questions (as yet unresolved) about the connection of Micronesian colonization to that of the rest of the Pacific. Historic period artifacts collected from various islets include a range of objects relating mostly to the early historic era (ca. AD 1830-1860) and the later Japanese occupation of Pohnpei (AD 1914-1945).

History of Investigation

The Nan Madol site complex on Pohnpei attracted the attention of even the earliest Western visitors to the island because of its size and unusual architectural style. Some of the questions about these megalithic ruins raised by visitors over the past 150 years have yet to be answered satisfactorily, others can be addressed and specific answers offered due to recent archaeological research conducted at the site.

The first documented report regarding Nan Madol Central was written by James F. O'Connell, who visited the island during the 1830's and refers to the whole complex then as a ruin. By this time dense mangrove vegetation covered most of the site and provided it with what O'Connell describes as a "ghost town" appearance (O'Connell 1972 [1836]). However, recent interviews with older local informants indicate that some of the islets, particularly Usendau and Peilapalap, were continuously occupied by members of the chiefly lineage of Madolenihmw District (as well as others from Temwen Island) throughout the 1800's.

In the 1850's Clark (1852) and Gulick (1857) identified Nan Madol as the remains of a city built by Pohnpeians. They included in their description some details of the architecture and a plan map of the Nan Dauas tomb. Gulick also stated that "till within the memory of some (Pohnpeians) living in1852, the whole of this locality (Nan Madol) was densely populated, with the exception of the most sacred spots, and no mangroves were allowed to intrude" (1857:58).

During the 1870's a series of visits by western scholars, adventurers, and missionaries allowed considerably more detailed descriptions of the complex. Among these, that of

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the German ethnologist and photographer Kubary (1874) is of particular interest because in addition to a detailed although somewhat idealized plan of Nan Dauas, he provides a specific description and sketch map of Pahn Kadira. In 1896 F. W. Christian visited Nan Madol Central on several occasions over a period of two weeks and noted that Usendau was occupied by a high ranking official of Madolenihmw District. He also provided detailed descriptions of Nan Dauas and Pahn Kadira including corrections of Kubary's earlier work.

During the German occupation of Pohnpei, then Governor Berg carried out excavations in the complex between 1905-1907. According to many Pohnpeians today, Berg's excavation in the very important Nan Madol tomb known as Pein Kitel represented a violation of the taboo sanctioned by the spirit of the dead. Confirming this notion is the fact that Berg died somewhat mysteriously on the same day he excavated Pein Kitel. Few details of his work are preserved (cf. Sarfert 1913).

The first effort to accurately map the entire Nan Madol Central ruins was undertaken by the German ethnographer Hambruch in 1910 and published posthumously (Hambruch 1936). His map remains one of the most complete and accurate of several sketch maps available but it has a number of known errors and deletions. Map #2 is based largely on Hambruch's map as supplemented by surveying done in the 1960's. Hambruch also provides a survey of oral traditions connected to Nan Madol which goes far to explain many of the functions of architectural features extant today.

Archaeological studies done by Japanese scholars during the 1920's-30's have never been reported in detail, and the scope and content of excavation or mapping results have never made clear (cf. e.g., Yawata 1932). The 1963 Smithsonian Institution project carried out some of the first systematic excavations and large scale mapping of individual islets. They derived radiocarbon dates from some excavations, including ones placing the ritual use of one islet, Idehd, to between A.D. 1200 to 1400. These dates are consistent with ones processed more recently (Ayres 1983; Ayres, Haun, and Mauricio n.d.); however, the results of the project (other than this date and a very brief description) have never been published despite mapping, surface collection of artifacts, and excavations variously conducted on Pahn Kadira, Kelepwel, Idehd, Pein Mwek, Wasahu, Reitik, and Nan Dauas.

Several Historic Preservation studies have been undertaken at Nan Madol since 1977 through the U.S. Historic Preservation Program. The first of these involved reconnaissance by Ayres in 1977 and 1978. The second, done by Saxe in 1979, attempted to define the site complex boundaries (Saxe et al. n.d.). The third by Athens in 1979-80 included islet mapping and surface artifact collections on four islets cleared by the Ponape CETA program (Athens 1981). The fourth by Ayres in 1981 (Ayres, Haun and Mauricio n.d.) included detailed maps of two major islets, Pahn Kadira and Usendau (total of 2.0 ha), surface collections of artifacts and food remains, excavations, further reconnaissance of all of Nan Madol central, and a botanical survey to clarify the nature of vegetation distributions for future site conservation planning. Map and descriptive detail on 59 architectural features was derived and over 700 artifacts, including shell, stone, and coral and bone implements, and 127 potsherds were recovered in this 1981 work.

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In 1984, with the aid of a National Geographic Society grant, Ayres and the University of Oregon research team completed survey, surface artifact collection, and mapping of Reilap, Peinmwek, Peiniang, Wasahu, Kelepwel, and Pahnwi islets in addition to test excavations at the latter three sites. The results of this work and additional 1984 research conducted at Nan Madol by Athens have yet to be published.

Present Conditions

Legal ownership of the islets comprising Nan Madol Central remains an unresolved issue. The rest of the area of Greater Nan Madol is privately owned by individual Pohnpeians.

Compared to other areas of Greater Nan Madol, the core area has attracted a far larger number of tourists, scholars, and other visitors. As a result, considerably more information about it is represented in the literature, while the balance of the area has gone virtually unreported. Of the islets within the core area, Nan Dauas has attracted the most attention due to the magnitude and fine preservation of its architecture and also its accessability by boat. Minor alteration of the original layout of this structure is noticeable due to increased human traffic through it in recent years. In addition, modifications such as basalt column lined pathways were made during the Japanese occupation of Pohnpei.

Most of the islets of Nan Madol Central are hidden beneath dense stands of mangrove, vines, and coconut and breadfruit trees. Although thus protected for the most part from willful human destruction, they are nonetheless subject to several forces identified as acting upon the entire complex to alter its physical makeup at a relatively slow rate (see, for instance, Ayres, Haun, and Mauricio n.d.). These include the gradual settling of stone walls and decomposition of its coral fill; the effects of wave action and tidal ebb; the frowth of large woody plant species, both as they may disrupt architecture directly and, in the case of mangrove, as they lead to silt infill in tidal canals; human activities including cultivation for arborculture and reuse of materials for off-site construction; and bioturbation of architectural fill by marine and terrestrial animals. All of the islets in the site complex have been subject to one or more of these forces, however, complete destruction of individual islets has not yet taken place as far as is known.

8. Significance

Period X prehistoric	Areas of Significance—C x archeology-prehistoric agriculture architecture art commerce communications	_ community planning conservation economics		religion science sculpture social/ humanitarian theater transportation other (specify)
Specific dates	A.D. 400-1900's	Builder/Architect Oral	traditions: Olosohp	a/Olosihna

Statement of Significance (in one paragraph)

A considerable body of literature documents the fact that the core of the Nan Madol ritual and residential area served as the seat of Pohnpei's ruling Sau Deleur dynasty in prehistoric times. Ongoing archaeological research conducted at the site has been aimed at tracing the development of the island's multi-ranked chiefly hierarchy, one of the most complex in the Pacific islands. Changes in megalithic building styles, artifacts reflecting social status, and special food items restricted to chiefs aid in archaeologically identifying the sociopolitical transformations. The Nan Madol site itself offers an exceptional opportunity to examine the relationship between chiefly architecture and sociopolitical organization because its sequences cover nearly 1500 years and span a period when political integration or large island segments was occurring; ultimately, Nan Madol became the highest status political and religious center for the entire island.

In the initial stages, Nan Madol seems to have been part of a small, regional political entity called Deleur consisting of Temwen Island, adjacent reef islets, and part of the main island coast; later it expanded to include virtually all of Pohnpei. According to oral traditions, Nan Madol became the seat of the Sau Deleur dynasty of paramount chiefs which united all of Pohnpei's estimated 25,000 people during later prehistoric times. The ruling line was overthrown by invaders led by the culture hero Isokelekel, reportedly from Katau Peidak (traditionally associated with Kosrae Island to the east of Pohnpei) after Nan Madol had been fully built by the legendary brothers Olosohpa and Olosihpa. Ethnographic data (e.g., Bernart 1977; Fischer 1964) coupled with archaeological evidence substantiate Nan Madol's position as the pre-eminent political and religious center up until ca. the A.D. 1500's when the centralized system appears to have collapsed.

The very early appearance of megalithic architecture (Usendau in Madol Powe [see description] is build up of about 18,000 cu m of building stone with construction dating back to ca. A.D. 800) attests to the early and high degree of political centralization on Pohnpei. Cordy's recent work at Kosrae's Lelu site (Cordy n.d.) provides valuable comparative material on what appears to be a later Kosraen megalithic architecture development paralleling that on Pohnpei. Thus, the documented antiquity of major chiefly architecture and the long building sequence make Nan Madol a unique study area for examining the development of multi-ranked chiefly hierarchies. Anthropological inquity into the origin of complex society requires comparisons among a number of world-wide examples of such developments as they may be documented historically and archaeologically; particularly important are cases where the temporal and spatial boundaries of such early chiefdom systems can be archaeologically controlled. Nan Madol, set in the island environment of Pohnpei, provides an excellent context in which to examine this phenomenon of human cultural development.

In addition to Nan Madol's prehistoric sociopolitical significance is the value of its architecture; both in scale and in the complex pattern it was developed. Nan Madol Central has had a long and complicated sequence of construction beginning at least by A.D. 400-500 and extending to about A.D. 1700 when relatively sudden abandonment appears to have

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taken place. Mounting evidence nonetheless indicates that portions of the complex were continuously occupied from that time until about 1945. The significance of this latter time period lies in its documentation of Euro-American contact in the Pacific at the beginning of Pohnpei's historic period (ca. A.D. 1830-1850's).

Archaeological remains demonstrate that initial construction began as early as the 5th century A.D. at Wasahu islet, by the 8th century in the area of Usendau, and construction of Pahn Kadira began as much as two centuries later (see Map #4). Further, it has been shown that Pahnwi islet which forms the south corner of the huge L-shaped enclosing seawall of Nan Madol Central was built quite late and post-dates A.D. 1200. At every phase of the construction process, the expenditure of manpower in transportation of building materials and the building of individual islets was enormous. Nan Dauas, in the Madol Powe section of Nan Madol Central, contains roughly 4500 cu m of basalt and 13,000 cu m of coral fill, with the weight of transported material estimated to be in excess of 45,000 metric tons. As noted above, Usendau contains about 18,000 cu m of building material weighing in the neighborhood of 20,000 metric tons while the construction of Pahn Kadira required somewhat over 40,000 metric tons (Ayres 1983). Although a portion of the basalt boulders used in foundations of some of the larger islets probably were derived from Temwen Island, the prismatic basalt so characteristic of chiefly architecture on Pohnpei and particularly at Nan Madol had to have been transported from sources at some considerable distance from the site.

It has been hypothesized that the magnitude of the construction effort accomplished at Nan Madol Central within a span of 200-300 years would have required a labor force obtained from beyond the immediate Madolenihmw area. This strongly suggests political integration of a large scale. The effort put into constructing the megalithic structures of this site was much greater than that required for the construction of the giant moai images of Easter Island and other stone monuments in the Pacific. Among other important aspects of the site are the roughly rectangular "city" plan, extensive transport and use of heavy basalt prisms as building materials, and the choice of erecting the entire complex on a barren reef flat.

Nan Madol is also unique in the Pacific in having an intricate canal system used for transportation and communication between a mass of over 90 islets. While elsewhere in the Pacific water transportation was of obviously great importance, at Nan Madol it serves as a means of connecting the artificial islets, linking these with other offshore islets (e.g., Nahkapw and Na), and integrating all of these with Temwen Island, the Madolenihmw District, and in general to the rest of Pohnpei. It has also been suggested that Pohnpei, directly through Nan Madol, had trade relations with and a degree of political control over the occupants of neighboring atolls.

As the traditional residential and ritual center for the Sau Deleur rulers, Nan Madol Central today maintains its important role as a symbol of chiefly power in Madolenihmw District. It is one of the few places on Pohnpei where religious architecture in the form of stone structures is known. While stone temples are common in Polynesia, they

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are very rare in Micronesia and the western Pacific in general. The tribute system still operative under the present chiefdoms (five politically autonomous districts and chiefs on Pohnpei) has its origin and history vested in this cultural monument. Similarly, many of the important titles in Pohnpei's dual chiefly lines can be traced back to events at Nan Madol Central.

The site complex is a fitting tribute to the sophisticated technology of its Pohnpeian builders. The magnitude and quality of its stone architecture, its artificial islet construction, and the modification of the shoreline to conform to concepts of religious and residential space are among the outstanding factors contributing to the significance of the complex. Also important is the role that Nan Madol has played in the shaping of Pohnpeian culture.

. Major Bibi	iographica	i neieren	ces
Ayres, William S. Ar	: Pacific Studie	es Institute, 19 vey in Micronesi	80.
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or town Eugene		sta	ate OR 97403
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For NPS use only I hereby certify that this	property is included in t	he National Register	date
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Attest:			date
Chief of Registration			

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ancient Wein Deleur (District of Deleur). Note that the UTM references given above are bearings of Nan Madol Central boundaries.

Starting at a point approximately a quarter of a mile north of Lukop, the NW boundary line of Greater Nan Madol runs in a SW direction for approximately four miles to a point about .5 mile south of the Kepirohi area. From this point the boundary line takes on a south/southeast direction for approximately 3 miles to the point about .75 mile SE of Na Island. Eastward from this point the boundary line is not labeled. Starting again at a point approximately 1 mile east of Nahpali Island, it proceeds in the NW direction for about 4 miles to the starting point north of Lukop area.

orm No. 10-301 lev. <u>1</u>0-74}

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NATIONAL REGISTER OF HISTORIC PLACES PROPERTY MAP FORM

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SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS TYPE ALL ENTRIES -- ENCLOSE WITH MAP

- Tre-Silve

NAME

HISTORIC

Nan Madol

(Map No. 1)

AND/OR COMMON

2 LOCATION

CITY. TOWN Temwin Island, Madolenihmw District, Pohnpei State

COUNTY

Trust Territory of the Pacific Islands STATE TTPI/FSM Federated States of

Micronesia

MAP REFERENCE

U.S.G.S. Ponape Series, Sheet 8; from Saxe et al. n.d. Fig.3

SCALE

1cm = .33 miles

DATE 1980; U.S.G.S. 1981

4 REQUIREMENTS

TO BE INCLUDED ON ALL MAPS

- 1. PROPERTY BOUNDARIES
- 2. NORTH ARROW
- 3. UTM REFERENCES

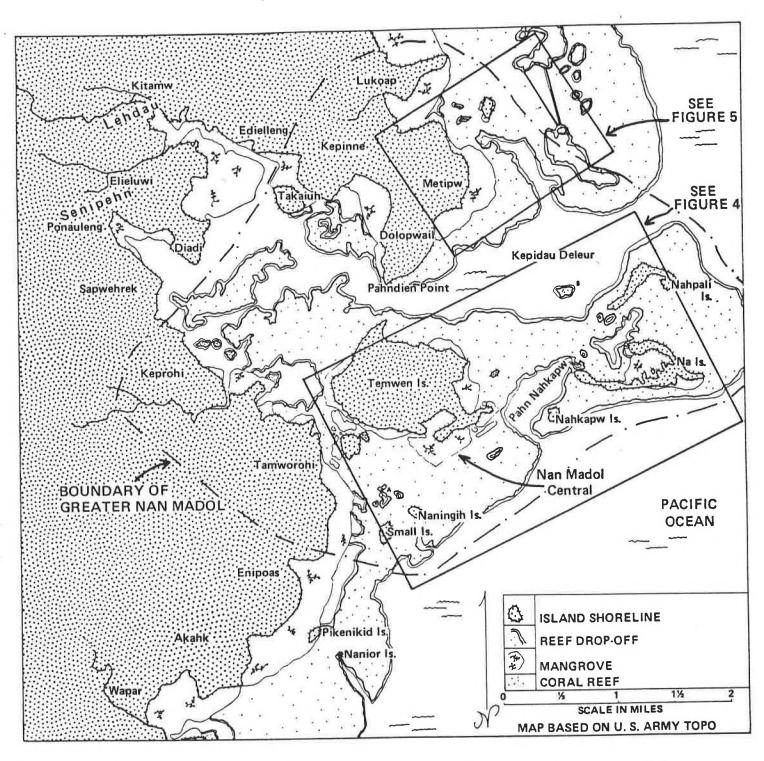


FIGURE 3: GREATER NAN MADOL AREA

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TYPE ALL ENTRIES -- ENCLOSE WITH MAP

1

1 NAME

HISTORIC Nan Madol: Nan Madol Central

(Map No. 2)

AND/OR COMMON

2 LOCATION

city. Town Temwen, Madolenihmw ___vicinity of District, Pohnpei State

COUNTY

STATE TTPI/FSM

3 MAP REFERENCE

SOURCE

Ayres, Haun, and Mauricio, n.d. (1982)

SCALE

1 cm = ca. 75 m

DATE 1982

4 REQUIREMENTS

TO BE INCLUDED ON ALL MAPS

- 1. PROPERTY BOUNDARIES
- 2. NORTH ARROW
- 3. UTM REFERENCES

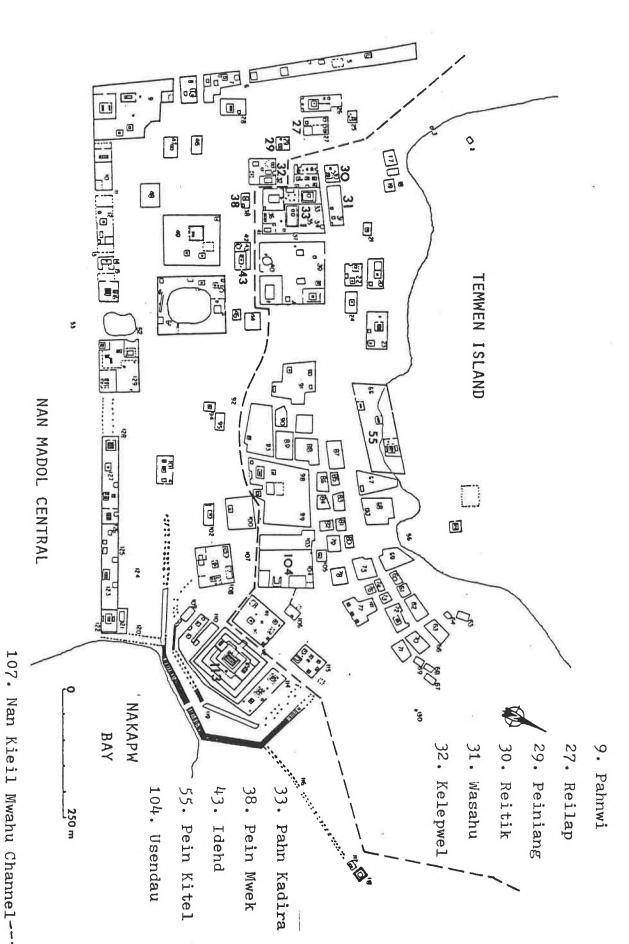


Figure 5. Nan Madol Central Map. Scale is approximate.

113. Nan Douas

orm No. 10-301 lev. 10-74)

> UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES PROPERTY MAP FORM

FOR NPS USE ONLY RECEIVED DATE ENTERED

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS TYPE ALL ENTRIES -- ENCLOSE WITH MAP

. 331

1 NAME

HISTORIC

Nan Madol: Turtle States of the Deleur Empire

(Map No. 3)

AND/OR COMMON

2 LOCATION

CITY. TOWN Pohnpei State

_VICINITY OF

COUNTY

STATE TTPI/FSM

3 MAP REFERENCE

SOURCE

Ayres, Haun, and Mauricio n.d. (1982), Fig. 53

SCALE

1 cm = 2 km

1982 DATE

4 REQUIREMENTS

TO BE INCLUDED ON ALL MAPS

- 1. PROPERTY BOUNDARIES
- 2. NORTH ARROW
- 3. UTM REFERENCES

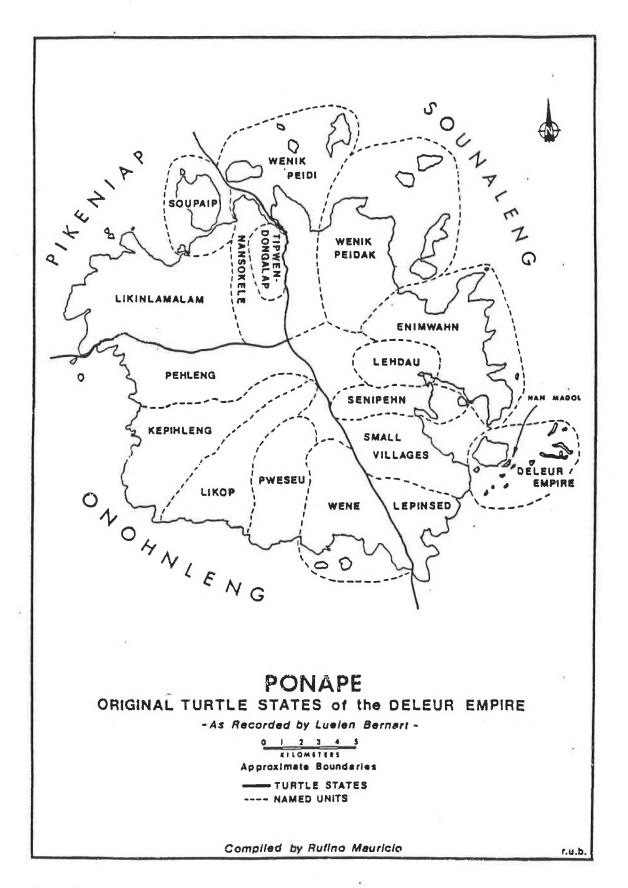


Figure 53. Map of the Original Turtle States of the Deleur "Empire."

orm No. 10-301 lev. 10-74)

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-

1 NAME

HISTORIC

Nan Madol: Pahn Kadira Islet Map

(Map No. 4)

AND/OR COMMON

2 LOCATION

city. town Temwin Island,

VICINITY OF Madolenihmw District, Pohnpei Island COUNTY

STATE TTPI/FSM

3 MAP REFERENCE

SOURCE

Ayres, Haun and Mauricio n.d. (1982)

SCALE

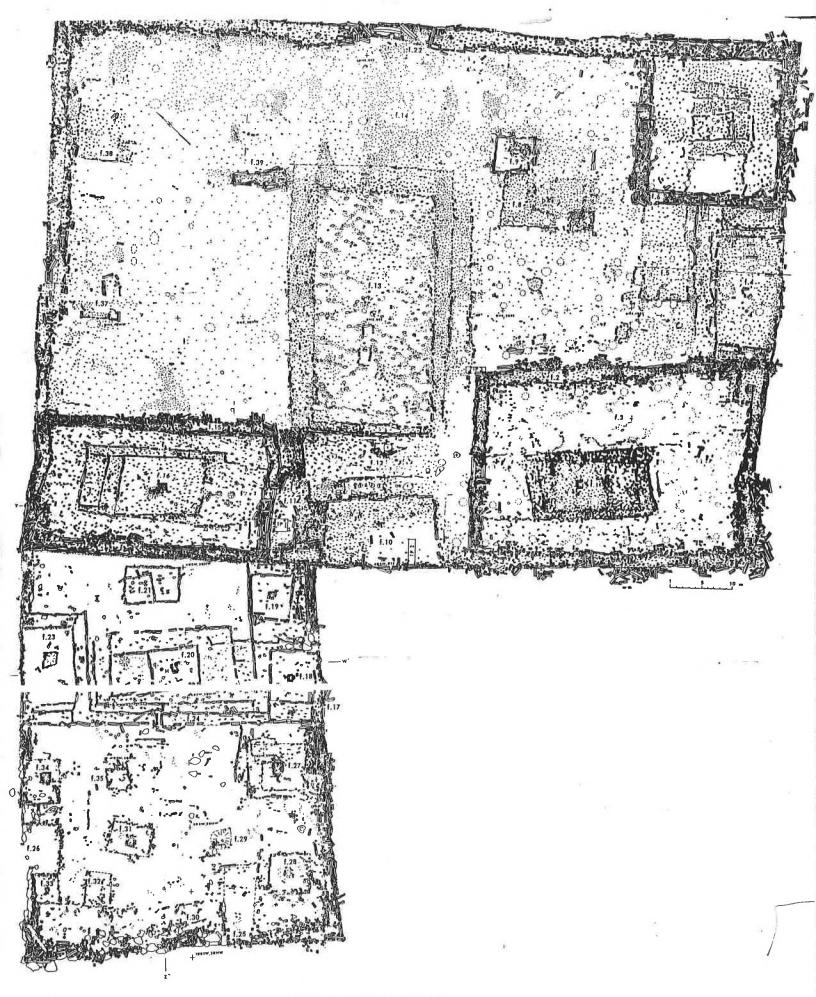
1 cm - 5 km

DATE 1982

4 REQUIREMENTS

TO BE INCLUDED ON ALL MAPS

- 1. PROPERTY BOUNDARIES
- 2. NORTH ARROW
- 3. UTM REFERENCES



Pahn Kadira Islet Map