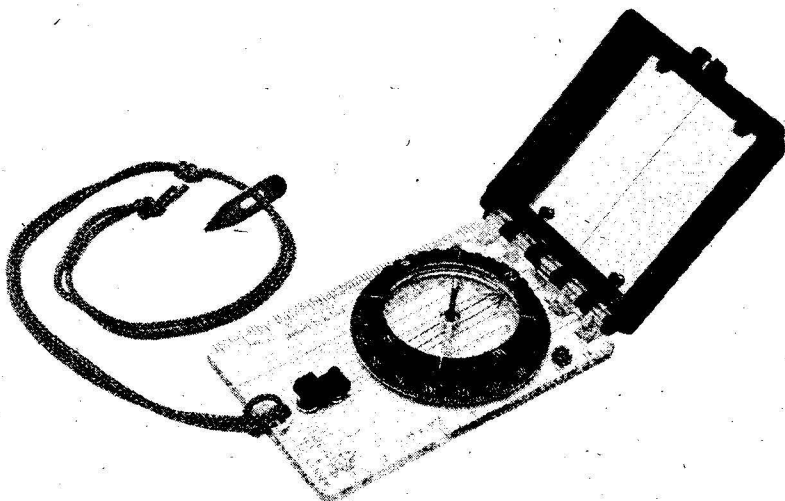


AN ARCHEOLOGICAL SURVEY PLAN FOR THE PACIFIC ISLANDS CLUSTER, PACIFIC WEST REGION, NATIONAL PARK SERVICE

NPS Systemwide Archeological Inventory Program

by
**SUSAN J. WELLS and
ROBERT J. HOMMON**

with contributions by
**Cathy Glidden
Gregory Luna**



**Western Archeological and Conservation Center
National Park Service
U.S. Department of the Interior**

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2000**

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ABSTRACT

The National Archeological Survey Initiative (NASI) was established to develop a Systemwide Archeological Inventory Program (SAIP) which in turn should improve the National Park Service's (NPS) accountability for cultural resources. A plan for the Western Region, now called the Pacific West Region, was published in 1994 (Wells and others 1994). In 1998, the Pacific Islands Cluster archeologist and an archeologist from the Western Archeological and Conservation Center began revision of the plan for the Pacific Islands Cluster. The number of project statements eligible for SAIP funding grew from 25 in the the 1994 plan to more than 80 in this document.

The Pacific Islands Cluster has 10 park units comprising more than 279,000 acres. Archeologically the Cluster has a great deal of diversity and a large number of sites. Only two percent of the Cluster's lands have been surveyed to modern standards. Approximately 2,200 archeological sites have been reported, but only 25 percent are recorded to modern standards. Twenty-two properties in the Pacific Islands Cluster are on the National Register of Historic Places.

The site visits and project statements that form the basis for the Pacific Islands Cluster Archeological Survey Plan were undertaken in 1998. The project statements were entered into the Project Management Information System (PMIS) in 1998 so that they could be considered for funding as soon as possible. This report serves as supporting documentation for the Pacific Islands Cluster Survey plan.

The survey plan for the Pacific Islands Cluster of the Pacific West Region is not a research design for the region. Instead, it is a planning document that incorporates information from Resource Management Plans (RMPs), the Project Management Information System (PMIS), and other sources. It follows the outline and criteria proposed in the SAIP document prepared by Aubry and others (1992). Much of the data are presented in tables that appear throughout the report. The plan includes a description of park lands, a Cluster overview and a report on the status of archeological inventory for the Cluster. Strategies for inventory survey, proposed projects, and categorization of cluster priorities are discussed.

ACKNOWLEDGMENTS

The Pacific Islands Cluster Survey Plan could not have been completed without the support and cooperation of many people. First and foremost is Robert Hommon, Pacific Islands Support Office archeologist, who saw the need for an update of the plan for the Cluster. Hommon determined that the best way to develop new project statements was to visit with park staff when possible so he and I visited all the Hawaiian parks in 1998. The number of project statements generated by the onsite visits attests to the effectiveness of this technique. We corresponded with the parks in Guam, Saipan and Samoa.

The park visits were brief but intense. All involved tours highlighting the cultural resources of the park. All of the people we met were knowledgeable and interested in improving the information base for the resources. Our main contacts at the parks included Cathy Glidden, Jean Martin and Fran Jackson at Hawaii Volcanoes National Park; Superintendent Daniel Kawaiaea at Pu`ukohola Heiau National Historic Site; Laura Carter-Schuster and Rick Gmirkin at Kaloko-Honokahau National Historical Park; Superintendent Geri Bell and Gordon Joyce at Pu`uhonua O Honaunau National Historical Park; Superintendent Kathy Billings, Deborah King and Daniel Lenihan at the USS *Arizona* Memorial; Ron Nagata at Haleakala National Park; and Sharon Brown at Kalaupapa National Historical Park. I cannot imagine a better introduction to the archeology and culture of Hawaii.

The overview of the Pacific Islands cultural history is largely the work of Robert Hommon. Additions to the text were made by Cathy Glidden, Gregory Luna and this author. Sharon Brown had many useful additions and corrections. Daniel Lenihan, Chief of the NPS Submerged Resources Unit, reviewed the scope and budget of the project statement for the USS *Arizona* Memorial.

The experience, expertise and guidance of George Teague, Chief of the Western Archeological and Conservation Center, were, as always, much appreciated. Michele Aubry of the NPS Anthropology Division and the other members of the SAIP Task Force provided a good framework for preparing the survey plan.

Nancy Pearson edited the manuscript. Danielle Desruisseaux, Shirley Shirley, and Meredith Wilson were drafted as proof readers. Angela Nava formatted and corrected the many versions and many tables. She also printed the final copies which were then sent out to be bound. The maps were drafted by Ron Beckwith. Archeologist Greg Luna helped enter the data for the proposed projects into the PMIS. Jaynee Nakamura of the Pacific Islands Support Office made the complicated travel arrangements.

Finally, I would like to thank my family, John, Michael and Elizabeth, for their patience and support. I have promised them that I will buy more and better souvenirs if ever forced return to Hawaii on business.

SJW

CHAPTER 1

INTRODUCTION

The Systemwide Archeological Inventory Program (SAIP) of the National Park Service (NPS) was launched in 1992 with the publication of guidelines for developing park survey plans (Aubry and others 1992). After *An Archeological Survey Plan for the Western Region of the National Park Service* (Wells 1994) was compiled and published in 1994, the NPS was reorganized into new regions and clusters. Some SAIP projects outlined in the first plan have been funded, and cultural resource managers have had time to work on their long-term inventory survey programs. Understanding that the original plan needed updating, the Pacific Islands Cluster (Cluster) archeologist contacted the Western Archeological and Conservation Center (WACC) for assistance in revising the survey plan for the Pacific Islands Cluster, Pacific West Region.

In 1998 Archeologists Robert Hommon of the Pacific Islands Cluster and Susan Wells of WACC met with superintendents and/or cultural resource staff in each of the Hawaiian parks to discuss archeological inventory needs. They contacted the three Pacific Islands Cluster parks in the U.S. Territories by e-mail. Current Resource Management Plans (RMPs) were the first source of information for inventory needs. In discussions with cultural resource personnel at the Hawaiian parks, they developed additional RMP statements for baseline studies and archeological inventory projects. They started with the 25 project statements from the 1994 SAIP plan and now have more than 80 project statements for the Pacific Islands Cluster eligible for SAIP funding. The emphasis on baseline studies comes from the Pacific West Cultural Resources Advisory Committee. Baseline studies include overview and assessment documents, research designs, and completion of archeological base maps for all parks in the Cluster.

This chapter will examine the purpose and scope of the NPS inventory program, the Pacific Islands Cluster SAIP, the general outline of this SAIP plan, and the plan's National Environmental Protection Act (NEPA) and National Historic Preservation Act (NHPA) compliance responsibilities.

THE SAIP PROGRAM

The NPS is responsible for conserving, protecting, preserving, and managing the cultural resources in its care for long-term scientific research, public interpretation, and education. The laws ensuring that the NPS fulfills its obligations to cultural resources include section 110(a)(2) of the NHPA, section 2(a) of Executive Order (EO) 11593, and section 14 of the Archeological Resources Protection Act (ARPA).

The 1991 Management Control Review of the NPS archeology program identified "critical high risk material weaknesses" (Aubry and others 1992) in basic inventory accountability of cultural resources on NPS lands. The National Archeological Survey Initiative (NASI) was established to develop a Systemwide Archeological Inventory Program (SAIP) that will set guidelines for an inventory program that will last for the next 20 to 30 years. A document prepared by the NASI Task Force (Aubry and others 1992) describes the systemwide program and outlines the requirements for the regionwide survey plans.

The goal of the program is to conduct systematic scientific research to locate, evaluate, and document archeological resources on National Park Service Lands; to nominate eligible properties for listing in the National Register of Historic Places (NRHP); and to recommend

appropriate strategies for conservation, protection, preservation in situ, management, and interpretation. The program is intended to augment, rather than replace, the Service's existing archeological policies, guidelines, and standards (Aubry and others 1992).

THE PACIFIC ISLANDS CLUSTER ARCHEOLOGICAL SURVEY PLAN

The Pacific Islands Cluster of the Pacific West Region, National Park Service, has 10 park units covering almost 280,000 acres. Representing about 20 percent of the park units in the Pacific West, the Cluster has seven parks in Hawaii, one in American Samoa, one in the Commonwealth of the Mariana Islands, and one in Guam. Most of these parks have a cultural emphasis; seven are cultural park units and three are natural. There are documented archeological sites in all ten parks.

The Cluster has a large number of archeological sites representing the precontact through postcontact periods. Approximately 2,200 archeological sites have been reported, although only 25 percent of these are recorded to modern standards. Two percent of the Cluster's lands have been surveyed systematically-- an increase of almost 0.5 percent since the 1994 SAIP plan was written.

The survey plan for the Pacific Islands Cluster is not a research design. Project statements for park research designs are recommended, however, to assist cultural resource managers in the preservation and management of cultural resources.

The Pacific Islands Cluster Archeological Survey Plan is a planning document incorporating information from park resource management plans (RMPs) and other sources. It follows the outline and criteria proposed in the SAIP document prepared by Aubry and others (1992). Most data are presented in large tables. Small summary tables also appear throughout the report. The heart of the plan is the table in Chapter 5 that lists the project statements generated for each park.

This plan was prepared using information from park archeologists and cultural resource management specialists as well as information from the WACC data bank. The chapter on the culture histories of the parks was written by Robert Hommon with assistance in the park-specific text sections from Susan Wells, Gregory Luna, and Cathy Glidden.

This document follows the format of the 1994 Western Region Plan and is organized into five chapters. The other four chapters are:

- **Chapter 2, DESCRIPTION OF PARK LANDS**--Summarizes the basic information regarding the 10 park units in the cluster.
- **Chapter 3, PACIFIC ISLANDS CLUSTER OVERVIEW**--Outlines the precontact and postcontact periods as well as the environment of the Pacific Islands Cluster parks.
- **Chapter 4, STATUS OF ARCHEOLOGICAL INVENTORY**--Summarizes the archeological projects conducted in each park as well as the survey coverage and quality of the site records.
- **Chapter 5, PROPOSED SAIP PROJECTS FOR THE PACIFIC ISLANDS CLUSTER**--Includes the proposed projects for each park and discusses prioritizing the projects.

The Pacific Islands Cluster SAIP plan is designed to be a dynamic document and should be revised every five years. The full-length project statements taken from RMPs, the Project Management Information System (PMIS) on-line database, and other sources are not appended to this document, but are available at the parks, at WACC, and at the Pacific Islands System Support Office.

NEPA COMPLIANCE

The NPS has determined that the development of the SAIP and its component regionwide and cluster plans qualifies as a categorical exclusion from the procedural requirements of NEPA. Neither an environmental assessment (EA) nor an environmental impact statement (EIS) has been prepared for the development of the systemwide program. Archeological surveys, including small-scale test excavations, also are categorical exclusions from the requirements of NEPA. Note, however, that some archeological surveys may not qualify as categorical exclusions and therefore may require environmental compliance.

NHPA COMPLIANCE

Development of the SAIP and its component regionwide and cluster plans is not a federal undertaking requiring compliance with section 106 of NHPA. In fact the development of the program will enable the NPS to fulfill its section 110 responsibilities under the act. Consultation with the State Historic Preservation Officer (SHPO) for Hawaii and the U.S. Territories in the Pacific Islands Cluster is required under both NHPA and EO 11593.

CHAPTER 2

DESCRIPTION OF PARK LANDS

The first component of the Pacific Islands Cluster SAIP plan describes the park lands (Figure 2.1). This chapter describes each park's size, type, and relevant enabling legislation, its location and accessibility, its land ownership, the nature of the physical environment, and lists the neighboring landowners. These data are presented in Table 2.1. The data are summarized under subheadings in this chapter.

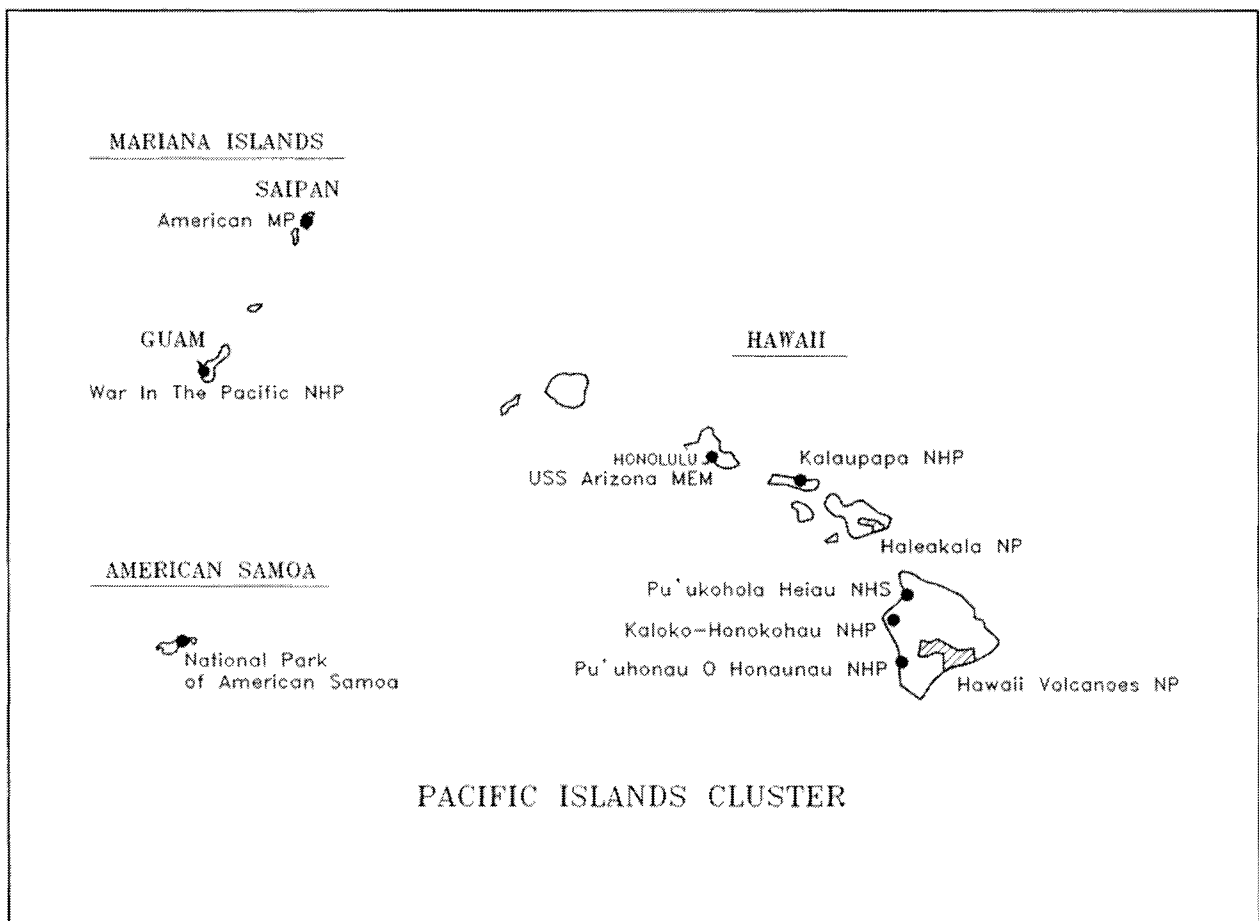


Figure 2.1. Map of Parks in the Pacific Islands Cluster, Pacific West Region, NPS.

TABLE 2.1

DESCRIPTION OF PARK LANDS IN THE PACIFIC ISLANDS CLUSTER
PACIFIC WEST REGION

PARK	SIZE IN ACRES	CULTURAL RESOURCES IN ENABLING LEGISLATION	LOCATION	ACCESSIBILITY	OWNERSHIP OF PARK LANDS IN ACRES	PHYSICAL ENVIRONMENT/ SURVEY CONDITIONS	NEIGHBORING LANDOWNERS
AMME American Memorial Park	133 acres [0.2 sq mi]	Historical values	Urban	No problems	All land belongs to Commonwealth of the Northern Mariana Islands	Coastal lowlands, tropical vegetation. Low visibility, survey conditions difficult.	Commonwealth of the Northern Mariana Islands
HALE Haleakala National Park	28,655 [44.8 sq mi]	None	Remote	Much of park is designated wilderness area. Sensitive native flora limits archeological survey. Remote, special transport required.	NPS: 28,655 (Proposed Additions: State of Hawaii: 201; Private: 700)	Elevation from sea level to 10,023' with rain forest, grasslands, cinder cones and volcanic slopes. Variable visibility and survey conditions.	State of Hawaii The Nature Conservancy
HAVO Hawaii Volcanoes National Park	229,615 [359 sq mi]	None	Rural and remote	Much of the park is designated wilderness area. Dense vegetation and changing landforms make location difficult. Remote, special transport required.	NPS: 229,616 (Authorized additions: State of Hawaii: 4; Private: 11,875 Proposed addition: Great Crack Area 3,151)	Diverse with 2 active volcanoes. Sea level to 13,677 feet with rain forest, grasslands, barren lava and cinder areas. Variable visibility and survey conditions.	State of Hawaii
KAHO Kaloko-Honokohau National Historical Park	1,160 [1.78 sq mi] land: 634 sea: 526	Preservation, interpretation, and perpetuation of traditional native Hawaiian activities and culture	Rural	Temporary access. Main areas open to public in year 2000.	NPS: 616 State of Hawaii, offshore waters: 526 Private: 18	Old lava flows, beach, man-made fishponds, abundance of archeological features. Visibility good except for lava flows. Survey conditions good.	State of Hawaii State Department of Transportation, Harbors Division Private State highway
KALA Kalaupapa National Historical Park	10,726 [17 sq mi]	Kalaupapa Settlement, historic structures and traditional Hawaiian sites	Rural and remote	Access to park is limited to steep foot trail or air transport; also limit of 100 people per day.	NPS: 22.9 State of Hawaii: 9,334 Dept. of Hawaiian Home Lands: 1,297 US Coast Guard: 0.7 Private: 72	Peninsula and valleys backed by sea cliffs. Wind, rain, wild pigs and heavy vegetation. Visibility poor, survey conditions difficult.	U.S. Coast Guard State of Hawaii Private

Table 2.1 (Continued)

PARK	SIZE IN ACRES	CULTURAL RESOURCES IN ENABLING LEGISLATION	LOCATION	ACCESSIBILITY	OWNERSHIP OF PARK LANDS IN ACRES	PHYSICAL ENVIRONMENT/ SURVEY CONDITIONS	NEIGHBORING LANDOWNERS
NPSA National Park of American Samoa	8,803 [14 sq mi]	Preserve and protect archeological and cultural resources of American Samoa	Rural and remote	Tram broken and ridge road virtually impassable. Access ranges from limited to nonexistent.	All park lands and waters are communally owned by the Samoans	Steep slopes, dense tropical vegetation. Visibility poor, survey conditions difficult.	Land communally owned by the Samoans
PUHE Pu'ukohola Heiau National Historic Site	85 [0.13 sq mi]	Pu'ukohola Heiau and John Young Homestead	Rural	No problems	NPS: 61 State of Hawaii: 24	Hot and dry coastal zone with limited vegetation. Visibility good, survey conditions good.	State of Hawaii lands within and adjacent to park
PUHO Pu'uhonua o Honaunau National Historical Park	181 [0.28 sq mi]	General reference to historic sites and objects of historic significance	Rural	No problems	All NPS Does not include offshore waters	Hot and dry coastal zone with little soil on volcanic surface. Visibility good, survey conditions good.	Private
USAR USS <i>Arizona</i> Memorial	Less than 1 acre	No enabling legislation, letter of agreement	Urban	Ship remains are underwater	All owned by U.S. Navy	USS <i>Arizona</i> located underwater. Diving equipment required.	Pearl Harbor Navy Base
WAPA War in the Pacific National Historical Park	1,960 [3 sq mi]	General reference to historic values	Urban and rural	No problems	NPS: 636 U.S. Navy: 204 Government of Guam: 874 Private: 203 Unknown: 8	Sea level to 1,028' with dense vegetation. Visibility poor, survey conditions moderate to difficult. Live ordnance.	Government of Guam U.S. Navy
10 NPS Areas	279,835 acres [437 sq mi]						

NUMBER OF PARK AREAS

There are 10 National Park Service areas in the Pacific Islands Cluster of the Pacific West Region. Seven are in Hawaii and one is in each of the U.S. Territories of Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands. In alphabetical order, the parks, their NPS acronyms, and islands are listed in Table 2.2.

TABLE 2.2. PARK UNIT, ACRONYM, AND LOCATION

PARK NAME	ACRONYM	ISLAND
American Memorial Park	AMME	Saipan, Commonwealth of the Northern Mariana Islands
Haleakala National Park	HALE	Maui, HI
Hawaii Volcanoes National Park	HAVO	Hawaii, HI
Kaloko-Honokohau National Historical Park	KAHO	Hawaii, HI
Kalaupapa National Historical Park	KALA	Moloka'i, HI
National Park of American Samoa	NPSA	Tutuila, Ofu and Ta'u, American Samoa
Pu'ukohola Heiau National Historic Site	PUHE	Hawaii, HI
Pu'uhonua o Honaunau National Historical Park	PUHO	Hawaii, HI
USS <i>Arizona</i> Memorial	USAR	Oahu, HI
War in the Pacific National Historical Park	WAPA	Guam

PARK SIZE

The Pacific Islands Cluster park units cover almost 280,000 acres and the units range in size from less than one acre to more than 200,000 acres. Refer to Table 2.1 for the acreage of individual units. Table 2.3 is a general summary of the unit size groupings.

TABLE 2.3. PARK UNITS BY SIZE

ACREAGE	NUMBER	PARK UNITS
Less than 1 acre	1	USAR
Less than 100 acres	1	PUHE
Between 100 and 1,000 acres	2	AMME, PUHO
Between 1,000 and 10,000 acres	3	KAHO, NPSA, WAPA
Between 10,000 and 100,000 acres	2	HALE, KALA
Between 100,000 and 1,000,000 acres	1	HAVO

PARK TYPE AND ARCHEOLOGICAL VALUES IDENTIFIED IN THE ENABLING LEGISLATION

The NPS units in the Pacific Islands Cluster are grouped by type in Table 2.4.

TABLE 2.4. PARK TYPES

NUMBER	TYPE OF PARK
4	National Historical Parks
3	National Parks
2	National Memorials
1	National Historic Site

The enabling legislation for each park unit was examined for references to significant archeological values. When available, the legislation for boundary changes also was examined.

- One unit has no enabling legislation and is operated under a letter of agreement: USS Arizona Memorial
- Archeological values are not mentioned in the enabling legislation for two units: Haleakala National Park and Hawaii Volcanoes National Park
- A general statement regarding historic values or objects of historic or scientific interest is contained in the enabling legislation for three of the Pacific Islands Cluster parks: American Memorial Park, Pu'uhonua o Honaunau National Historical Park and War in the Pacific National Historical Park
- References to significant archeological or cultural values, resources, or structures are contained in the legislation for four units: Kaloko-Honokohau National Historical Park, Kalaupapa National Historical Park, National Park of American Samoa, and Pu'ukohola Heiau National Historic Site

The enabling legislation for Hawaii Volcanoes and Haleakala National Parks has gone through several revisions but dates back to 1916, the inaugural year of the NPS Organic Act. The legislation does not refer to specific resources but conforms to the idea that national parks preserve and protect a variety of resources on large tracts of land. In contrast, the National Park of American Samoa was explicitly established to preserve and protect the tropical forest and the archeological and cultural resources of American Samoa and its associated reefs.

Two of the National Historical Parks (NHPs)--Kaloko-Honokohau and Pu'uhonua o Honaunau--as well as Pu'ukohola Heiau National Historic Site (NHS) preserve important Hawaiian cultural sites. Similarly Kalaupapa NHP was established not only to recognize the significance of the Moloka'i Island Hansen's disease settlement and traditional Hawaiian sites, but also to protect the habitats of rare and endangered species. In like vein, War in the Pacific NHP commemorates the military campaigns of the Pacific theater of World War II and nearby outstanding natural and scenic values.

The two national memorials, American Memorial Park and the USS *Arizona* Memorial, honor those who died in these places during World War II.

PARK LOCATIONS AND ACCESSIBILITY PROBLEMS

Most park units in the Pacific Islands Cluster are in rural or remote settings. A few are in urban locations, and one is in a setting with both urban and rural components. The park units are categorized in Tables 2.5 and 2.6 and the narrative text below.

TABLE 2.5. PARK UNITS BY LOCATION

LOCATION	NUMBER	PARK UNITS
Urban	2	AMME, USAR
Rural	3	KAHO, PUHE, PUHO
Rural/remote	3	HAVO, KALA, NPSA
Remote	1	HALE
Urban/rural	1	WAPA

The question of access is an important consideration for archeological survey. Sometimes the problem is getting to the survey area. Conducting archeological survey in the Pacific Islands Cluster presents unique problems because, before surveys can proceed, the crew must get to an island. Once there, problems can arise due to the remoteness of the survey area, or to special transportation requirements, such as needing a boat, helicopter, or 4-wheel-drive vehicle, or requiring access through private land. Wilderness designations of large parcels of land may restrict access to a survey area to foot travel, thus making it necessary to add the complications of backpacking to a field project.

The conditions of accessibility vary considerably from park to park. Five park units (AMME, KAHO, PUHE, PUHO and WAPA) have no real access problems. Access to the backcountry areas in two parks, Haleakala and Hawaii Volcanoes, however, is restricted to foot travel because of wilderness designations. The remoteness of Kalaupapa NHP and restrictions on visitation at this park make access for archeological survey very difficult. Access to the National Park of American Samoa ranges from limited to nonexistent in areas where there are no roads or where the roads are virtually impassable. The cultural resources at the USS *Arizona* Memorial are submerged, and require the services of archeologists who are NPS certified divers.

TABLE 2.6. PARK UNITS BY ACCESSIBILITY CONDITION

ACCESSIBILITY CATEGORY	NUMBER	PARK UNITS
No accessibility problems	5	AMME, KAHO, PUHE, PUHO, WAPA
Wilderness designation; also remote with heavy vegetation and endangered species	2	HALE, HAVO
Remote, special transport required	2	KALA, NPSA
Resource is underwater	1	USAR

LAND OWNERSHIP

The ownership of park lands varies in the Pacific Islands Cluster and is summarized in Table 2.7. See Table 2.1 for more detailed information.

TABLE 2.7. PARK UNITS BY LAND OWNERSHIP

LAND OWNERSHIP	NUMBER	PARK UNITS
All NPS land/property	3	HALE, HAVO, PUHO
Some NPS, some other	4	KAHO, KALA, PUHE, WAPA
No NPS land	3	AMME, NPSA, USAR

NATURE OF THE PHYSICAL ENVIRONMENT

The physical environment of the park units in the Pacific Islands Cluster is highly variable, ranging from seashore to high mountain peaks. The parks also vary considerably in terrain and can have extreme climatic conditions. Within a short distance, there can be alpine deserts and lush mountain rain forests. Coastal areas often are cultural landscapes that have been altered almost totally in the precontact and/or postcontact periods.

Archeological survey requires individuals to walk over a defined area spaced at fairly close intervals. Physical features such as slope, ground cover, lava flows and vegetation density have direct implications for archeological survey. Steep terrain in mountainous areas makes access to survey areas, and survey itself, challenging. Dense ground cover in tropical forests compromises ground visibility and the success of any inventory. Volcanic fields and associated lava flows not only have the potential to destroy resources, but also can make archeological inventory a hazardous undertaking.

The environmental diversity of the Pacific Islands Cluster includes coastal parks, parks with active volcanic features and parks with dense tropical vegetation. Natural regions found in the National Parks are defined in part 2 of *The National Park System Plan* (NPS 1972). The NPS plan subdivides the Hawaiian Islands into five subregions. Guam is designated a natural region, but neither Saipan nor American Samoa are classified in the 1972 NPS System Plan.

The natural regions defined in the NPS System Plan are very broad categories but it is possible to characterize each generally and to give a brief description of the archeological survey conditions found in each province. Such a discussion follows and it will use the categories listed in Table 2.8. Note that modification of park lands can alter ground surfaces, making surface survey difficult, if not impossible, without remote sensing or testing.

TABLE 2.8. PARK UNITS BY NATURAL REGIONS

NATURAL REGION	UNITS	UNIT ACRONYMS
Hawaiian Islands	7	HALE, HAVO, KALA, KAHO, PUHE, PUHO, USAR
Other Pacific Islands	3	AMME, NPSA, WAPA

Hawaiian Islands

The five subregions of the Hawaiian Islands, as defined in the *NPS System Plan* (NPS 1972), include 1) the Island of Hawaii with tropical to alpine vegetation and active volcanoes (Hawaii Volcanoes, Kaloko-Honokohau, Pu`uhonua o Honaunau, Pu`ukohola Heiau); 2) the Maui Island group, which includes Maui (Haleakala), Moloka`i (Kalaupapa), Lanai and Kahoolawe; 3) O`ahu (USS *Arizona*); 4) Kauai, Niihau; and 5) the Leeward Islands.

Other Pacific Islands

War in the Pacific NHP, located on Guam, is characterized by dense tropical vegetation, which reduces ground surface visibility and creates poor survey conditions. The coastal lowlands of American Memorial Park in the Northern Mariana Islands are similarly vegetated and also have poor survey conditions. The dense vegetation, compounded by steep slopes, makes survey difficult in the National Park of American Samoa.

Reduced or nonexistent ground surface visibility in areas with dense tropical vegetation or lava can be found in parts of American Memorial Park, Hawaii Volcanoes, Haleakala, Kalaupapa, National Parks of American Samoa and War in the Pacific NHP. Conditions for survey are good in dry, leeward, coastal areas such as Kaloko-Honokohau, Pu`ukohola Heiau and Pu`uhonua o Honaunau. Underwater archeology is ongoing at the USS *Arizona* Memorial and may be appropriate in several of the coastal parks.

NEIGHBORING LANDOWNERS

Table 2.1 lists the government and other entities managing land bordering NPS lands in the Pacific Islands Cluster. By working with government neighbors, parks may be able to develop and staff archeological projects through partnership agreements. The neighboring federal landowners include the U.S. Coast Guard at Kalaupapa NHP and the U.S. Navy at both the USS *Arizona* Memorial and War in the Pacific NHP. The State of Hawaii is a neighbor at Haleakala, Hawaii Volcanoes, Kaloko-Honokohau, and Pu`ukohola Heiau. Territorial landholdings abut park areas in the Northern Mariana Islands (AMME), Guam (WAPA) and Samoa (NPSA). The Nature Conservancy has land adjacent to Haleakala. Kaloko-Honokohau, Kalaupapa, and Pu`uhonua o Honaunau are bounded by privately owned lands. There are privately owned inholdings at Haleakala, Hawaii Volcanoes, Kaloko-Honokohau, Kalaupapa and War in the Pacific NHP.

CHAPTER 3

PACIFIC ISLANDS CLUSTER OVERVIEW

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The purpose of this survey plan is to quantify what is known about the archeological resources of the Pacific Islands Cluster and to outline a strategy to address the information gaps. This chapter, which describes the precontact period, postcontact period, and the status of archeological research for each park, will be more detailed and specific than most other sections of the SAIP plan. The discussion of the culture history and environment of Pacific Islands Cluster parks is organized by island group and, within each group, by park and includes the elements specified in the 1992 SAIP plan guidelines (Aubry and others 1992): a discussion of the prehistory and history of the area; the physiography, ecology, topography, or landscapes associated with past human occupations and use; the nature of archeological resources associated with each type of physiographic province, ecological zone, topographic feature, or landscape identified; a summary of the nature and adequacy of prior archeological research in the region in terms of quality, quantity and geographic coverage; the identification of gaps and weaknesses in the scientific knowledge about the region's prehistory and history; and identification of research problems, questions or topics (especially those of regional and national importance) in need of further archeological study.

HAWAII

Hawaii's seven NPS units are on four different islands. The four units on the island of Hawaii are Hawaii Volcanoes National Park, Kaloko-Honokohau National Historical Park, Pu'uuhonua o Honaunau, and Pu'ukohola Heiau. Haleakala National Park is on Maui. Kalaupapa National Historical Park is on the island of Moloka'i and the U.S.S. *Arizona* Memorial is at Pearl Harbor, O'ahu.

THE PRECONTACT PERIOD IN HAWAII

Black basalt outcrops, craters, cinder cones, steep-sided valleys, and shallow reddish soils testify to the geological youth and volcanic origin of the Hawaiian Islands. The two active volcanoes in Hawaii Volcanoes National Park, Kilauea and Mauna Loa, are still adding land to the island of Hawaii. Haleakala National Park includes the summit depression and eastern slope of Mount Haleakala, eastern Maui's 10,000-foot volcano that last erupted about two hundred years ago.

Polynesians successfully colonized Hawaii by about A.D. 500. Within 500 years, all the main islands were sparsely populated. By the time Captain Cook established contact in 1778, the Hawaiian population had grown to several hundred thousand. Hawaiian society was divided into two major classes. The commoners (*maka'ainana*) were the farmers, the fishermen, the collectors, and the craftsmen. The political, military, and religious leaders were drawn from the varied ranks of the chiefly class (*ali'i*). The economic base supporting the complex precontact polities--whose population often exceeded 100,000--included a variety of fishing and other collecting of marine resources, farming, and the most highly developed aquaculture in the Pacific. The Hawaiians' only domestic animals were the dog, the pig, and the chicken.

Although they lacked metallurgy, ceramics, a writing system, large nucleated settlements, or a market system--archeological components often associated with complex cultural development in continental contexts--the Hawaiian polities were, by any measure, complex societies. At the time of Western contact,

the islands were divided into two competing kingdoms (*mokupuni*), each ruled by an *ali'i nui* (paramount chief or king). The life of Kamehameha I (c. 1750 - 1819) spanned the end of the precontact and the first of the postcontact periods. Following Cook's visit, Kamehameha I rose to power through a combination of warfare and diplomacy. By 1810, he had united all the islands into a single kingdom. In doing so he completed a process of political amalgamation that had begun some two centuries before, as the most powerful polities expanded by conquering and annexing the smaller chiefdoms. Accounts of this process, and much more, are available in the traditional histories that constitute our knowledge about ancient Hawaii along with the ethnohistoric, ethnographic, and archeological records. The existence of the traditional histories, preserved in written form in the nineteenth and early twentieth centuries, explains why the phrase "precontact history" is considered more accurate than "prehistory" in Hawaii.

Each kingdom had several districts (*moku`aina*), evidently representing the original home territories of the branching chiefdoms that first settled the islands. Each of the thirty-two districts was divided into territorial units called *ahupua`a*, eventually totalling about 1,000 units on the islands.

The *ahupua`a*, the home territory of the local community, was typically long and pie shaped, with its long axis crosscutting all local ecozones from the inshore marine zone, through the shoreline and cultivable slopes to the forested uplands. The availability of most necessities of life (food, potable water, craft materials, etc.) within the boundaries of the *ahupua`a* allowed most communities to be markedly self-sufficient. Archeological evidence indicates that permanent habitation in most *ahupua`a* was concentrated in a coastal zone no more than 1,500 feet wide. Community life clearly was not limited to the coast, but rather encompassed the entire *ahupua`a*. The whole *ahupua`a*, then, is the unit of archeological interest, and is roughly equivalent to a village-site in most other areas of the world. For this reason, large-scale archeological survey is essential to conducting archeological research and planning in Hawaii.

For example, the *ahupua`a* of Kaloko, the seaward portion of which forms part of Kaloko-Honokohau National Historical Park, is 0.7 mile wide and extends from the shore about 7.7 miles inland to an elevation of nearly 6,000 feet. Broadly speaking, Kaloko is typical of leeward Hawaiian *ahupua`a*. Research suggests several ecological zones and subsistence patterns in Kaloko. Uncultivated resources such as wood and wild birds were probably collected in the upland forest zone between 6,000 feet and about 3,500 feet elevation. Agriculture was practiced in scattered plots between 3,500 feet and about 2,300 feet elevation and, more intensively, in a system of contiguous rectangular agricultural fields, from about 2,300 to about 900 feet elevation. Average annual rainfall drops from about 70 inches at 3,000 feet elevation to about 30 inches at 900 feet, and then to about 10 inches at 400 feet. A barren intermediate zone with sparsely scattered archeological sites extends from 900 feet elevation to the edge of the coastal zone, reflecting the fact that the sweet potato, the most drought-tolerant Hawaiian staple, required at least 30 inches of rain to survive. In Kaloko, as in most *ahupua`a*, the high concentration of permanent houses, religious structures, and other kinds of sites indicates that most precontact Hawaiians lived in the narrow (1,000 to 1,500-foot-wide) coastal zone. An unusual feature of both Kaloko and Honokohau is the presence of large stone-walled fishponds at the shore where mullet and other fish were raised for the chiefs.

Some economically important resources that were available only in a few locations, such as fine-grained basalt for the making of adzes, were undoubtedly exchanged throughout districts and islands. The archeological record of the summit basin of Haleakala is particularly interesting in this regard. The basin floor, largely made up of cinder cones and sparsely vegetated lava flows, rises from 6,400 to 7,800 feet elevation, and is surrounded by steep ridges as high as 10,000 feet elevation. Six miles from the nearest shoreline, this isolated area is far above the upper limit of the inland agricultural zone and evidently no crops were cultivated there. For Hawaiians used to tropical living, the conditions in the Haleakala basin were extreme; basin temperatures tend to be 20° F cooler than coastal ones and strong winds often add a chill. In spite of the inhospitable nature of the basin, the top of Haleakala was divided among eight of the 15

districts of Maui, suggesting that valued resources could be found in the summit depression. This observation is strengthened by evidence from surveys in the summit depression, which have discovered more than 130 archeological sites in and around the basin. Economically valued resources in the area may have included basalt for tool-making and wild birds and their eggs. A *heiau* or temple on an 8,400-foot ridge and the presence of burial platforms in the basin indicate that Haleakala also may have had religious significance. Small temporary shelters (some in clusters of as many as 50 or more) may have been used by travelers (possibly including members of military expeditions) spending a night in the basin while crossing from one side of the island to the other.

The prevailing northeast tradewinds were a major factor in the pattern of indigenous agricultural production in Hawaii. Generally, the windward (north and east) sides of the islands receive more rainfall annually than do the leeward (south and west) sides. In all areas rainfall tends to increase with altitude. Most permanent streams, rivers, and mature valleys are on the windward sides of the islands. Windward regions also appear to have been settled earlier than leeward. The staple crop in the windward areas having sufficient permanent sources of water was "wet" taro, grown in irrigated pond-fields. The sweet potato and "dry" taro were the main staples in the leeward districts. Other crops included yams, bananas, breadfruit, coconut, kava, and sugar cane.

The artificially terraced floors of the three valleys in Kalaupapa, on the windward side of the island of Moloka'i, testify to the presence of irrigated pond-fields where taro was once cultivated. On the Kalaupapa Peninsula at the foot of these valleys, where there were no sources of water for irrigation, the staple was probably the sweet potato.

Kaloko-Honokohau National Historical Park, whose environmental conditions were described earlier, is situated in the dry northern part of the Kona District and is not typical of Kona as a whole. To the south of Kaloko-Honokohau, 13,000-foot Mauna Loa, the most massive mountain in the world, influences the winds so as to create a climate unlike that of any other leeward region in the Hawaiian Islands. While the young mountain lacked permanent watercourses, the rainfall, which rivaled in abundance that of many windward coasts, made possible the development of a system of intensively cultivated fields encompassing some 30,000 acres. The Kona Field System supported a large, dense population, which was undoubtedly a primary reason for the rise to political prominence of the Kona chiefs in the centuries before Western contact. The support of these chiefs, in turn, was an important factor in the success of not only Kamehameha, but also several of his predecessors who hailed from the leeward side of Hawaii Island.

In peace and war the ritual life of the kingdoms was focused on the great *heiau*. The Hale o Keawe Heiau, at Pu'uhonua o Honaunau National Historical Park, which is situated at the shore near the center of the Kona Field System, served as a mausoleum for certain of Kamehameha's illustrious ancestors. This *heiau* is adjacent to the large, massive-walled enclosure called a *pu'uhonua* or sacred place of refuge for which the park is named. War refugees and others seeking safety were protected from their pursuers if they could reach this place.

The traditional histories say that some 500 years before Kamehameha, chiefs sailing from Kahiki founded the genealogical lines of all subsequent powerful Hawaiian chiefs and introduced many rituals and other innovations. The word "Kahiki" eventually came to mean a sacred place somewhere beyond the horizon, but it may originally have referred to the island of Tahiti or other Polynesian islands that lie some 3,000 miles to the south. The best known of the voyagers from Kahiki was Pa'ao, the priest who is said to have introduced human sacrifice to Hawaii as well as the *luakini heiau* where such rituals were performed. Waha'ula Heiau, which was covered by lava flows in August 1997, is reputed to have been the first *heiau* built by Pa'ao after he arrived in Hawaii.

THE POSTCONTACT PERIOD IN HAWAII

In early 1779 scarcely a year after the first contact with Hawaiians at Kauai, the Cook expedition sailed into Kealakekua Bay (four miles north of Pu'uhonua o Honaunau), where Captain Cook and his men met Kamehameha, then a young chief who had not yet begun his rise to power. In 1791 Kamehameha gained control of the island of Hawaii by sacrificing his only remaining rival at Pu'ukohola, a *heiau* dedicated to the war god Ku-Ka'ilimoku, which Kamehameha had built for this purpose. With the island of Hawaii under his control, Kamehameha was able to continue his conquest of the archipelago.

Although he clearly pursued his career in the indigenous tradition, Kamehameha also adopted firearms and accepted the military advice of Westerners. His success in uniting all the islands was in some part attributable to the advice of American Isaac Davis and Englishman John Young, who were recruited by Kamehameha in 1790. John Young moved to Kawaihae in 1793. The John Young Homestead at Pu'ukohola Heiau National Historical Site, where Young and his family lived from 1798 to 1835, is the only known intact archeological site from the early postcontact era.

The nineteenth century saw major changes in the Hawaiian Kingdom. The diseases introduced by Westerners led to major depopulation. Christian missionaries and other Westerners who settled in Hawaii introduced many political and economic innovations. In the years following 1848, the practice of private ownership of land was introduced as part of the "Great *Mahele*" (land division). To claim land under the *Mahele*, people were required to give testimony regarding the location and dimensions of the lands they were claiming, when and how they were acquired, and how the lands were used. Analysis of the testimonies and other written *Mahele* records of land parcels at Kalaupapa and other Hawaii parks will contribute significantly to our understanding of Hawaii in the mid-nineteenth century.

Two ways in which Hawaii entered the economic world system were in the growing of sweet potatoes and the harvesting of *pulu*. The Kalaupapa Peninsula was one of several Hawaiian areas where sweet potatoes were grown on a large scale for export to the burgeoning population of California after the discovery of gold there in 1849. The hundreds of stone walls that can still be seen on the northern part of the Kalaupapa Peninsula were built as wind breaks for this crop. From 1851 to 1875, *pulu*, a downy material that comes from the head of the fiddlehead fern, was used to stuff pillows, mattresses, and upholstery. Archeological sites in Hawaii Volcanoes National Park, dating from the 1850s, are evidence of the *pulu* industry in the Puna District.

In 1866 Kalawao on the Kalaupapa Peninsula was designated a settlement for people with Hansen's disease (leprosy). In the decades that followed, what began as a tragic place of exile became known for the humanity and personal qualities of Belgian priest Father Damien and others who came to care for the people of Kalaupapa.

Indicative of the increasing U.S. interest in the Pacific region, Pearl Harbor, O'ahu, grew into a major U.S. naval base in the first four decades of the twentieth century. The Japanese attack on Pearl Harbor on December 7, 1941 was a recognition of its strategic importance to U.S. interests in the Pacific. The Japanese strategists believed a successful attack might eliminate the ability of the U.S. to pursue a protracted war in the Pacific, a war they knew the U.S. would win because of its larger industrial base. Due to strategic errors from the Japanese command, luck (the U.S. aircraft carriers were not in Pearl during the attack), and contrary to Japanese expectation, the surprise attack, although devastating, first united the American people and then became a powerful symbol that resurrected the fractured U.S. fleet. Pearl Harbor provided the base, both ideological and physical to launch the successful U.S. campaign in the Pacific. The U.S.S. *Arizona* Memorial remains an important national symbol today.

MARITIME HISTORY OF HAWAII

Canoe sheds, fishponds, and fishtraps are in evidence at Kaloko-Honokohau National Historical Park and Hawaii Volcanoes National Park. Canoe landings and historic small craft landings are known at Pu'uhonua o Honaunau National Historical Park. Two important coastal features found at Pu'ukohola Heiau National Historic Site are the area below Mailekini Heiau, which was a beachhead for Kamehameha's fleet, and an offshore temple associated with sharks, Hale o Kapuni.

Sunken ships include the *Ka'ala*, an inter-island steamer sunk on the reef just off the coast of Kalaupapa in 1932. The USS Arizona Memorial commemorates the sinking of the USS *Arizona* and USS *Utah* during World War II.

RESEARCH TOPICS

Some research topics that can be addressed in the National Parks in Hawaii are the following:

- Settlement pattern analysis within and between traditional land units.
- The effect of coastal settlements on the extinction or displacement of native plants and animals.
- The extent of inter-island commerce.
- Fortified settlements and their place in the development of a stratified society.
- The effects of catastrophic events such as volcanic eruptions, earthquakes or tsunami on settlement patterns.
- The demographic history of traditional land units.
- Contact between Hawaii and other Polynesian island groups.
- The effect of non-Polynesian influences on settlement patterns and site components in Hawaii.
- Traditional agricultural systems and the transformation of landscapes.
- The role of Hawaii as the exporter of goods in the nineteenth century.

HALEAKALA NATIONAL PARK

Haleakala National Park, on the island of Maui, encompasses the volcanic landscape of the upper slopes of Haleakala and the unique natural environment of the Kipahula Valley that extends to the coast. While Haleakala attracts a million visitors and Kipahula Valley a half-million visitors every year, no roads connect them and no roads lead further than the threshold of the Kipahula wilderness area. The more than 19,000 acres of designated wilderness area and limited-access roads within the highly visited park help keep Haleakala National Park as undisturbed as possible.

Haleakala has a wide variety of precontact archeological resources including agricultural sites, habitation sites, habitation and burial caves, platforms, trails, *heiau*, walls, fences, paved trails, and *ahu* (cairns or shrines) as well as historic sites and buildings. The numerous sacred and secular sites within the rugged and barren erosional summit depression are of particular interest (Figure 3.1), but the Kipahulu District also has great potential for research.

Named and mapped during an expedition led by Charles Wilkes in 1841, Haleakala was occupied both by Hawaiians and non-Hawaiians well into the twentieth century. Postcontact period artifacts are found in caves and shelters; cattle and sugar cane were raised historically.

Archeological inventory, reconnaissance, and clearance surveys have examined 492 acres, which is less than 2 percent of the 28,655-acre park. More than 360 archeological sites have been located and recorded; very few, however, have been documented to modern standards. The archeological overview written in 1978 requires updating. Base maps are at WACC and at the Pacific Islands Support Office. The Crater Historic District is listed in the NRHP.



Figure 3.1. Remains of a stone structure on the rim of the Haleakala summit depression. This feature may have been a temporary shelter used by travelers crossing the island.

Ethnographic research has not been conducted and therefore all the cultural resource management issues in the park, both ethnographic and archeological, should be addressed. Archeological questions regarding site function, chronology, site number, and temporal change remain unanswered and constitute a challenge to the management and protection of these cultural resources. Other unanswered questions, such as what role Haleakala and Kipahulu played in the lives of the Hawaiians and whether or not this role can be explained by what is reflected in the archeological record, or discovered by ethnographic means, offer unique opportunities for research. What are the relationships of the *heiau* to those in French Polynesia, and what are the archeological signatures of trade?

Ten archeological project statements for Haleakala were developed for the SAIP initiative. They include an archeological overview and assessment including base map updates, preparation of a research design, and the site data entry in the Archeological Sites Management Information System (ASMIS) data base. Field projects include a survey of trails and developed areas, a resurvey and GIS project at Kipahulu, and surveys of the Lower Ka'apahu and Lower Kipahulu areas. Recording pictographs with modern imaging techniques, inventorying caves having archeological remains, and documenting the basalt adze quarry and associated workshops also are proposed.

HAWAII VOLCANOES NATIONAL PARK

Hawaii Volcanoes National Park, located on the island of Hawaii, is, by far, the largest park (229,615 acres) in the Pacific Islands Cluster. The park rises from the southern coast of the island to the summit of Mauna Loa at 13,677 feet above sea level. Mauna Loa, rising nearly 32,000 feet from its base on the seafloor, is the

most massive mountain on earth. Geographically, the park is extremely diverse, encompassing coastal areas, deserts, wet forests and alpine zones. The precontact and postcontact use of these different areas for subsistence and religious purposes is perhaps the most fascinating aspect of archaeological research in the park. The two active volcanoes, Mauna Loa and Kilauea, have shaped beliefs and settlement patterns over the years.

With more than half the park designated as wilderness, the 2.5 million annual visitors are provided with unique recreational opportunities. The park has been described as an island within an island, as remnants of the once-rich Hawaiian plant and animal life exist with the help of NPS protection and rehabilitation.

Hawaii Volcanoes National Park may have been occupied as early as A.D. 700. Occupation in the area was heaviest between the thirteenth and twentieth centuries during which the population on the island increased substantially. Habitation sites were built where Hawaiians could take advantage of both coastal and inland resources within pie-shaped, political land units called *ahupua`a*. These land areas generally ran from the coast to the mountains and allowed the inhabitants to use all the resources available in these areas. Caves and craters also were used.

Precontact sites include archeological remains reflecting habitation (Figure 3.2), agriculture, fishing, bird collecting, petroglyph making, gathering, quarrying, water collecting, transportation, and religious uses. The most important religious site within the park is Waha`ula Heiau, a *luakini* temple where human sacrifice was sometimes performed. Overrun by lava in August 1997, this important site was built around A.D. 1275 by the priest Pa`ao from Tahiti who is thought to have brought the *kapu* (taboo) system to Hawaii. The eruption of Calla Volcano has been going on since 1983 and is responsible for covering more than 30,000 archeological features in the park.

In the postcontact period occupation was clustered along the coast. Goats, cattle, and *pulu* harvesting, begun in the 1800s, changed the nature of the occupation and use of the area dramatically. The study of volcanology began at the park in the early 1900s. The tourism industry was well underway by 1846 when a thatched house was built to accommodate visitors. The 1877 Volcano House, one of a series of hotels with that name, still stands near the park visitor center.

Archeological surveys and testing and mapping projects have been conducted at Hawaii Volcanoes National Park. To date, however, only two percent of the park has been subject to systematic archeological survey. Emergency archeological surveys were initiated in 1986 in eastern coastal regions of the park in response to the threat of active lava flows to sites. Beginning in 1995, emergency data recovery has been concentrated in inland areas threatened by lava, providing researchers with much needed data on subsistence practices in areas other than the coastal regions. Archeological base maps for this park are available at the park and at WACC. Of the 800 known sites in the park, only 70 are recorded to modern standards. Seven properties are on the NRHP. They are Puna-ka`u Historic District, Wilkes Campsite, Old Volcano House, Whitney Seismograph Vault No. 29, Kilauea Crater, Seventeen-Ninety Footprints, and Ainapo Trail.

The proposed SAIP projects for Hawaii Volcanoes National Park include an overview and assessment, incorporating information from the unfinished overview of the Kau District, and a research design for future work in the park. Archeological reconnaissance or sample surveys are planned for the montane region of Mauna Loa, the Ka`u District where little or no survey has been conducted, and the Footprints National Register District. Survey is proposed for the developed areas, roads and trails, and for the districts, *ahupua`a*, and *ili* (subdistrict) boundaries. Other areas to be examined include areas important in the postcontact period such as Steam Flats, Waldron Ledge, the Pulu to Keauhou Trail, and the vicinity of Half-Way House. Other studies include rock art recording, exploration of lava tube caves, and examination of aerial photographs.

House Platform (Plan View)

Kamoamoa Mauka Phase 2

Hawaii Volcanoes National Park

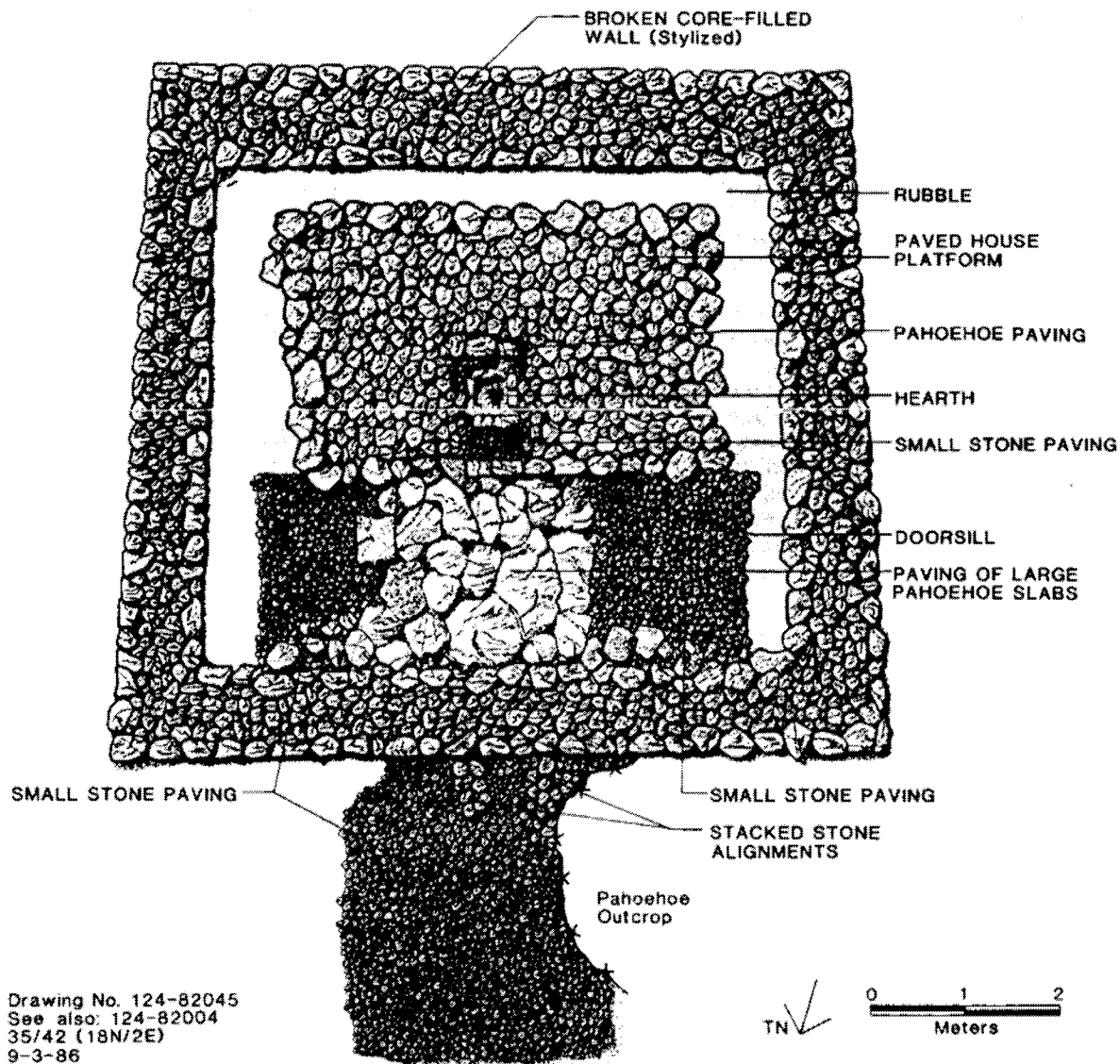


Figure 3.2. Map of a house platform at Hawaii Volcanoes National Park.

KALAUPAPA NATIONAL HISTORICAL PARK

Kalaupapa, located on a peninsula of the island of Moloka'i, is one of the richest collections of archeological, historical and natural resources in the Pacific region. Stone walls, house sites, religious temple ruins, and other archeological remains cover the peninsula like a fish net. The park encompasses the historic Hansen's disease settlements of Kalaupapa and Kalawao.

The word Kalaupapa means "a flat leaf," aptly describing the peninsula, which is, in fact, a comparatively flat "leaf" of lava rock about 2-1/4 miles wide, projecting from 2,000-foot high cliffs. A small volcano formed the peninsula and it represents an excellent example of an Icelandic shield volcano. Some remote park areas include rare native habitat for several endangered endemic Hawaiian plants and animals.

The oldest radiocarbon date for archeological remains on Kalaupapa is A.D. 1000. The archeological remains are relatively undisturbed and include evidence that Kalaupapa has four *ahupua'a* within the national park boundary. Archeological survey, mapping, and testing projects have been conducted at Kalaupapa but only about 500 acres or about 5 percent of the park have been systematically surveyed. At least 475 sites have been recorded to modern standards and these include permanent house sites, fishing shelters, canoe sheds, a canoe ramp, temples, a stone slide, and burial monuments. Other features include remnants of agricultural fields, stone-wall windbreaks, and stone shelters.

In 1849 Kalaupapa became a primary port of call for ships taking sweet potatoes to California to feed the thousands who came west during the gold rush. The windbreaks constructed for sweet potato fields are quite impressive. In 1866 the Kingdom of Hawaii established a quarantine settlement for people with Hansen's disease on the Kalaupapa Peninsula. Father Damien was the most famous of the many who came to Kalaupapa to care for and improve the lives of the banished patients.

The history of Hansen's disease in Hawaii is the story of 8,000 people taken from their families and hurried off to the settlements on Moloka'i. The establishment of Kalaupapa National Historical Park is an official recognition of the importance of this history to the nation and to the world. The park is listed in the NRHP and is a National Historic Landmark. Today, the park's visitors are guided through Kalaupapa and Kalawao settlements by Hansen's disease patients who have lived on the peninsula most of their lives. The patients provide information on the history of the settlement and share personal experiences with the visitors.

The settlement of Kalaupapa, which continues to be occupied by Hansen's disease patients and support staff, is one of the best preserved examples of Hawaiian vernacular institutional architecture. The Moloka'i Lighthouse, which is listed in the National Register, is the tallest U.S. lighthouse in the Pacific.

Most of the SAIP projects developed for Kalaupapa NHP entail archeological survey. The proposed surveys target different localities in the park including submerged lands, caves, and Kauhako Crater. The Kauhako Crater survey is a high priority project since it is an ongoing project. In areas with dense growth of lantana and christmasberry, sample survey, rather than full coverage, is proposed. In addition to the proposed survey projects, an archeological overview and assessment, an archeological research design, and an ASMIS database project are proposed.

KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Along the Kona coast of Hawaii, Kaloko-Honokohau is a 1,160 acre park with an incredible array of cultural and historical resources. It was established to preserve, interpret, and perpetuate traditional Hawaiian activities and culture as well as to demonstrate historic land use patterns. The ancient settlement of Kaloko-Honokohau includes portions of four different *ahupua'a* with particularly intensive occupation of the coast. Nearly one-half of the park is submerged lands. The Hawaiian inhabitants constructed fishponds by building massive sea walls and modifying natural beach enclosures. Kaloko and 'Aimakapa fishponds are

excellent examples of their engineering skills (Figure 3.3). Today the fishponds offer a rare nesting habitat for endangered water birds. With the help of the NPS, these man-made wetlands provide a safe haven for native plants and animals.



Figure 3.3. Fishpond at Kalaoko-Honokohau NHP.

Kaloko-Honokohau NHP and Honokohau Settlement are listed on the NRHP. Humans have occupied the Kaloko-Honokohau area for 600 to 900 years. In the Kaloko unit alone, more than 200 archeological sites have been recorded and many more have been noted. Approximately half of the park has been systematically surveyed; most archeological work has been conducted near the coast. Archeological sites include fishponds, fishing shrines, canoe landings, house platforms, agricultural sites, trails, petroglyphs, a *hohua* slide (stone track built for sleds used only by royalty), and *heiau*.

The area continued to be important in the postcontact period. Kamehameha I set up his court in nearby Kailua and it is believed that he and many of his ancestors are buried somewhere in Kaloko. Also known as the King's Highway, the Mamalohoa Trail, which passes through the park, was built in the early to middle 1800s. The Honokohau Church was established in the early 1900s. Evidence of historic ranching activities includes the Huehue Ranch.

Four SAIP projects are proposed for Kaloko-Honokohau. The park's top priority is to complete the ongoing project that includes a survey of Honokohau, a resurvey of portions of Kaloko, and an underwater survey of

Honokohau Bay. Additional projects proposed are an archeological overview and assessment document, an archeological research design, and the entry of archeological site data into the ASMIS database.

PU`UKOHOLA HEIAU NATIONAL HISTORIC SITE

The building of the *heiau* or temple at Pu`ukohola in 1790 and 1791 played a crucial role in the ascendancy of Kamehameha I. To ensure conquest of all the Hawaiian Islands, the temple was dedicated to his family war god, Kuka`olimoku (Ku). The rocks used in the temple construction are believed to have come from the valley of Pololu via a human chain of workers at least 20 miles long. During the dedication ceremonies in 1791, Kamehameha I's chief rival, his cousin Keoua Kuahu`ula, was slain and his body was offered as a sacrifice to Ku. The death of Kamehameha's cousin ended all opposition on the island of Hawaii. By 1810 Kamehameha the Great, builder of the Pu`ukohola Heiau, ascended to the leadership of all the Hawaiian Islands.

John Young, a marooned British sailor, was one of Kamehameha's advisors and influenced events in Hawaii from 1790 through 1820. Recent excavations at John Young's Homestead, located in Pu`ukohola Heiau National Historic Site, revealed the presence of early Hawaiian occupation. Both habitation and agricultural sites from the precontact period have been recorded. An older temple built by Kamehameha's ancestors, the Mailekini Heiau, is located within the 85-acre site. In the mid to late 1800s farming and ranching were practiced in the area. There are several World War II features in the park. Pu`ukohola Heiau National Historic Site is listed in the NRHP.

Although the park has been surveyed for cultural resources, the site records for some sites and features do not meet modern recording standards. Two of the four proposed SAIP projects involve archeological fieldwork. The stabilization and documentation of the Pelekane area along the coast, which is believed to be the royal residence of Kamehameha II, is a high priority project. Erosion has exposed a feature and the area is threatened by flooding; both surface and subsurface survey are proposed. Another proposed SAIP project is an archeological overview and assessment project with fieldwork to update site records and enhance the park's base map. The remaining SAIP projects are the preparation of an archeological research design and the entry of the site data into the ASMIS database.

PU`UHONUA O HONAUNAU NATIONAL HISTORICAL PARK

Pu`uhonua o Honaunau may have been occupied as early as A.D. 1250. Honaunau was a royal residence and a religious, cultural, and political center until early in the historic period. It lost political importance in 1779 when the seat of power shifted to Kailua, Kona, and it lost its religious importance in 1819 when the taboo system was abolished.

The *pu`uhonua* at Honaunau was a sacred place of refuge or sanctuary. Those who broke sacred laws or *kapu* could avoid certain death by reaching a *pu`uhonua* and undergoing a ceremony of absolution. During a battle both noncombatants and defeated warriors could seek refuge at a *pu`uhonua*. The Pu`uhonua at Honaunau was set off from the royal residence by a massive L-shaped stone wall measuring more than 300 meters long, 5 meters wide, and 3 meters high.

There are at least seven *heiau* in the park, some dating from A.D. 1250. The *pu`uhonua* dates from A.D. 1475. Sledding tracks, or *holua*, are known in three locations. Other types of identified sites include a canoe landing, fishponds, petroglyphs, coastal village sites, and burial caves.

In the postcontact period, activities shifted to include goat herding and ranching. Historic trails and Ki`ilae Village date to the early historic period. Ki`ilae Bay was a small craft landing.

Pu`uhonua o Honaunau National Historical Park is on the NRHP. This park has been surveyed for cultural resources, but many site and feature records for the park need to be brought up to modern standards. The proposed SAIP projects include an archeological overview and assessment with fieldwork to update site records and the park base map, the preparation of a research design, and entering the site data in the ASMIS database. The survey of cave sites should be undertaken as part of an integrated cave management plan. Surface and subsurface survey of the archeological resources at the Royal Courtyard is needed.

USS ARIZONA MEMORIAL

The USS *Arizona* Memorial straddles the hull of the battleship USS *Arizona* and commemorates those who lost their lives during the December 7, 1941 Japanese attack on Pearl Harbor. The USS *Arizona* received the most serious damage of the ships attacked that day. The ship sank to the bottom of Pearl Harbor in about nine minutes. Fewer than 340 of the ship's 1,177 crew members survived the attack and the USS *Arizona* was left in place in the harbor as a war grave. The memorial structure was built in 1961 and dedicated in 1962 (Figure 3.4). The NPS and the U.S. Navy bring visitors to the memorial from the visitor center on the mainland by boat. On May 5, 1989, the USS *Arizona* was designated a national historic landmark because of its exceptional national significance.

The visitor center is located shore side, primarily on historic landfill. This landfill covered some previous shoreline and extends into the shallow water. A large stone-walled fishpond, part of the extensive indigenous aquacultural system in Pearl Harbor, once stood near the present location of the visitor center. During the center's construction, the deposited fill may have covered intact precontact archeological remains related, perhaps, to the aquacultural pond formerly visible nearby. As in many areas of urbanized O'ahu, such a deposit would be expected to provide valuable information about the Hawaiian population once supported by the rich resources in and around Pearl Harbor.

Archeological survey of the submerged ship was conducted in 1983, 1984, 1986, and 1987. Most of the superstructure, the masts, and most armament were salvaged during war years. During the underwater survey the NPS Submerged Cultural Resources Unit and U.S. Navy divers created detailed planview and elevation maps of the ship (Figure 3.5).

The proposed SAIP project for the USS *Arizona* Memorial is an inventory and a map of the artifacts and portable ship's apparel visible on the deck and in damaged areas of the battleship. The inventory is in anticipation of a potential loss of objects from the ship's deck in future years. The USS *Arizona* Memorial lies a few hundred feet offshore of Ford Island. A new bridge from the mainland to Ford Island has opened up the island to development by the U.S. Navy. Several new U.S. Navy commands and several hundred housing units for U.S. Navy personnel are planned. In addition, the USS *Missouri* is docked a short distance from the USS *Arizona* Memorial off of Ford Island. Visitor access to the USS *Missouri* will be from Ford Island. With the increased use of Ford Island by the Navy for housing and offices, the potential for unauthorized diving on the USS *Arizona* may increase.



Figure 3.4. Aerial view of the submerged USS *Arizona* and the Memorial.

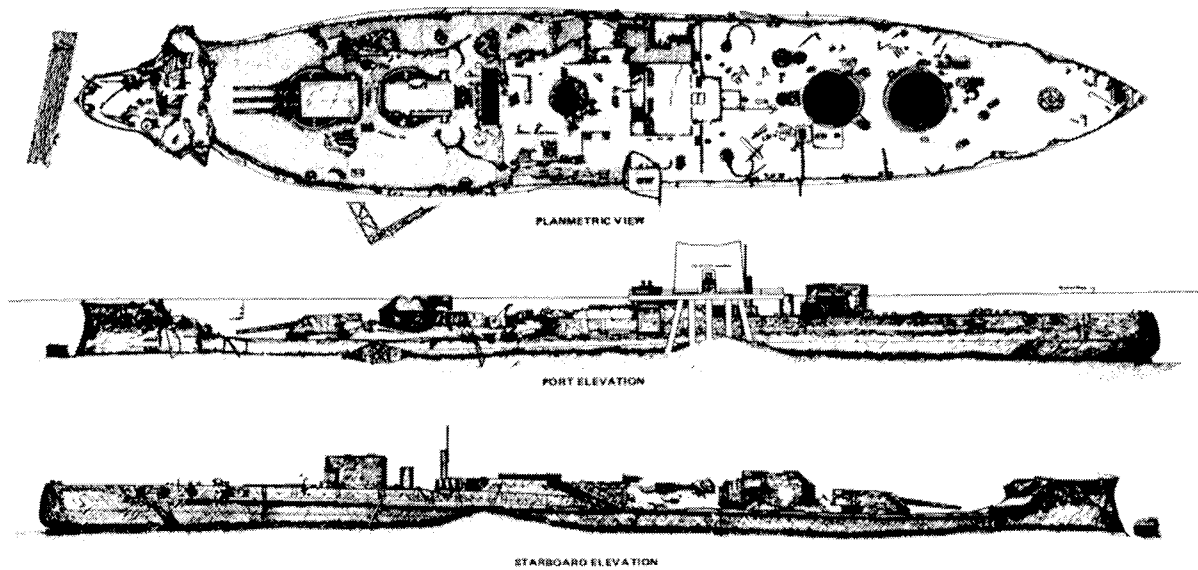


Figure 3.5. Plan and elevation maps of the USS *Arizona* (from Lenihan and others 1989).

MARIANA ISLANDS

Two parks are located within the Mariana Islands chain in western Micronesia. These parks are War in the Pacific National Historic Park on Guam and American Memorial Park on Saipan which is part of the Commonwealth of Northern Mariana Islands. Precontact archeology in western Micronesia has identified pottery that can be seriated to allow a relative dating of sites and bone, stone, and shell artifacts. Both parks were created to honor those who died in World War II.

WAR IN THE PACIFIC NATIONAL HISTORICAL PARK

War in the Pacific National Historic Park, in west central Guam, interprets events in the Pacific theater of World War II. It includes sites associated with the 1944 battle for Guam, which is an example of the island-hopping military campaign used against the Japanese. The park has seven distinct units depicting various aspects of the struggle. It has coastal flats and mountains rising to more than 1,000 feet above sea level.

The prehistory of the park itself has not been studied, but, according to the State Historic Preservation Officer, Richard Davis, archeologists working in Guam have been able to locate prehistoric archeological deposits. These deposits have allowed them to define site types, characteristic site configurations, and cultural significance. Buried archeological materials in intact contexts have been found at Asan Beach and may be present in Agat.

The historic period on Guam dates to the 1521 arrival of the Portuguese navigator Magellan, who sailed for the Spanish monarchy. Guam remained a Spanish colony until 1898 when it became a United States possession after the Spanish-American War. A German cruiser from World War I, the *Cormoran*, was scuttled in Apra Harbor. The park's Asan unit once was the location of an internment camp for Filipino patriots who advocated independence for the Philippine islands before World War II.

Within the park the only cultural period documented by archeologists is related to the U.S. invasion of the island to liberate it from the Japanese during World War II. Thirteen acres, representing one percent of the park, have been systematically surveyed, but more than 100 sites from the World War II period have been recorded throughout the park. Seven properties are listed in the NRHP: War in the Pacific National Historical Park, Memorial Beach Park, Agat Invasion Beach, Matgue River Valley Battle Area, Piti Coastal Defense Guns, Asan Ridge Battle Area, and Asan Invasion Beach.

Archeological survey is needed to determine if any prehistoric resources are present and to better define the historic-period remains. Three proposed SAIP projects require archeological field inventories: an inventory of submerged cultural resources, primarily World War II remains; the completion and update of the archeological surface survey records; and a survey for sealed Japanese earthen tunnels. The presence of live ordnance throughout the park creates some interesting challenges to the archeologists. Projects for an archeological overview and assessment, a research design, ASMIS data entry, and a study of multispectral aerial photography also are proposed.

AMERICAN MEMORIAL PARK

American Memorial Park is on the west coast of Saipan. The 133-acre park honors the more than 5,000 American and Marianas people who gave their lives during the World War II Marianas campaign. In addition to the war memorial inscribed with the names of those who died in the war, the park is a living memorial, offering visitors recreational opportunities similar to those enjoyed by armed services personnel over half a century ago, such as water sports, tennis, softball, and hiking. The park includes a 30-acre wetland and mangrove forest which provides habitat for native wildlife.

The impact of World War II on the park lands makes the likelihood of finding prehistoric remains still existing within the park slim. There is evidence, however, of Japanese occupation both before and during World War II. Modifications made to Japanese defensive structures by U.S. forces after the invasion in July 1944 also are evident. The park was completely surveyed in 1979. Sixteen sites have been recorded but not to modern standards. The park map at the Pacific Islands Support Office shows site locations and the WACC base map shows clearances.

The SAIP projects proposed for American Memorial Park are an archeological overview and assessment, an archeological research design, and ASMIS data entry.

AMERICAN SAMOA

American Samoa is located in the South Pacific midway between Hawaii and New Zealand. Five islands and two atolls have been part of this U.S. Territory since 1900. The independent nation of Western Samoa is part of the same island group. Samoa is referred to as the cradle of Polynesia, based on the evidence of its very early occupation. Explorers and missionaries first visited the islands in 1722. The U.S. naval base on Tutuila became strategically important in the 1930s and was a staging area for U.S. Marines in World War II.

Samoan prehistory begins with colonization of the Samoan archipelago by the makers of Lapita pottery 3,000 to 3,500 years ago. This period is followed by the development of ancestral Polynesian society and resulted in the evolution of Samoan culture. It is also an example of the development of a Polynesian chiefdom society in relative isolation.

Initial occupation of the coast was followed by a rapid expansion inland--followed by the construction of elaborate domestic and specialized site complexes. Initial European contact had little effect on Samoa but between 1791 and 1830 the population seems to have declined and moved from the interior to coastal locations. The effect of the missionaries and the U.S. Navy on the life of Samoans is undocumented. Archeological, ethnographic, and historic studies should be undertaken to document traditional and historic use of the landscape by the people of American Samoa.

NATIONAL PARK OF AMERICAN SAMOA

The National Park of American Samoa, situated on the three widely separated islands of Tutuila, Ta'u, and Ofu, was established to preserve and protect the tropical forest, marine reefs, and archeological and cultural resources of American Samoa. The two rain forest preserves and a coral reef are home to unique tropical animals including the flying fox, Pacific boa, tortoises, and other birds and fish. The multi-island park covers more than 8,800 acres, which are leased from the local villages.

American Samoa has diverse landscapes with coastal terraces, sea cliffs, and steep slopes. Dense vegetation and the slopes will make archeological survey difficult. Active tectonic processes causing subsidence may have buried sites under the sea or under sediments. Little archeological survey has been done; creative techniques will be required to locate certain types of sites in difficult survey conditions. The American Samoa Historic Preservation Office has offered to work with NPS to develop strategies for cultural resource surveys.

Due to the lack of archeological survey, the SAIP projects include archeological reconnaissance surveys of the Ofu, Ta'u, and Tutuila units. Additional SAIP projects are the publication of an archeological overview and assessment prepared by Dr. Terry Hunt of the University of Hawaii, the preparation of an archeological research design, and the entry of archeological site data into the ASMIS database.

SUMMARY

The archeology of the Pacific Islands Cluster parks is quite diverse and quite spectacular. This chapter, however, shows that a great deal of archeological work is needed if the NPS is to meet its obligations to cultural resources in the Cluster. Baseline studies, that is, overview and assessment documents and research designs, and ASMIS data entry, are needed for all parks except the USS *Arizona*. Archeological survey projects of varying scope are recommended for all the parks except American Memorial Park. In the next chapter we will examine the status of archeological inventory in the Pacific Islands Cluster parks.

CHAPTER 4

STATUS OF ARCHEOLOGICAL INVENTORY IN THE PACIFIC ISLANDS CLUSTER

Archeological projects have been conducted in all the Pacific Islands Cluster parks. The nature of these projects and the data they have generated are discussed in this chapter. The data are compiled in Table 4.1. The table lists the status of archeological overviews and resource management plans (RMPs) as well as the summaries of the types of major archeological projects done at each park unit. The number of acres and the percent of park lands surveyed for cultural resources also are listed. Information about the number of recorded sites and whether or not the site records meet modern standards are presented along with information about base maps and computerized site data bases. The location and status of collections are summarized. Additionally, National Register properties are listed for each NPS unit.

OVERVIEW AND ASSESSMENTS

The archeological overview and assessment documents for the Pacific Islands Cluster parks are either out-of-date or nonexistent. Project statements have been prepared for all parks, except the USS *Arizona* Memorial, to write, update, or complete overviews and assessments. These baseline documents will describe a park's resources and previous research, and set directions for future research. Baseline documents are a priority in the Pacific West Region, NPS.

RESOURCE MANAGEMENT PLANS

Ideally, all NPS units use resource management plans to prioritize projects and apply for funding. The current emphasis on updating resource management plans and the implementation of the Program Management Information System (PMIS) have both been important to the updating of the Pacific Islands Cluster Survey Plan.

PREVIOUS ARCHEOLOGICAL PROJECTS

Archeological projects conducted in the Pacific Islands Cluster parks range from clearance surveys and inventory surveys to excavation and testing projects, submerged surveys, and rock art recording. Many early projects were reconnaissance surveys with no systematic survey coverage. The numbers and types of projects listed in Table 4.1 are approximate but give a general idea of the level of archeological activity seen in each park unit. Most of the data were collected from the WACC Project Data Base with additional information from archeologists and cultural resource specialists in the parks.

Even though the numbers in Table 4.1 are estimates, the project totals are impressive. The more than 400 archeological projects that have been conducted in the Pacific Islands Cluster include the following: more than 70 archeological inventory surveys, 30 mapping projects, and 10 reconnaissance surveys; another 220 projects are small clearance surveys, done for compliance under NHPA; and more than 50 testing or excavation projects. Two other types of archeological projects listed are site stabilization and survey of submerged cultural resources.

**TABLE 4.1
STATUS OF ARCHEOLOGICAL INVENTORY IN PACIFIC ISLANDS CLUSTER PARKS**

PARK	OVERVIEW DATE/RMP DATE	PREVIOUS ARCHEOLOGICAL PROJECTS	ACRES SURVEYED/ % PARK SURVEYED	TOTAL SITES RECORDED/ # RECORDED TO MODERN STANDARDS	NPS FORMS/ STATE FORMS	BASE MAPS/ CAD MAPS	SITE DATA BASES: ASMIS/ WACC	WHERE ARE ARTIFACTS? CATALOGUED IN ANCS?	NATIONAL REGISTER OF HISTORIC PLACES
AMME	none/none	-1 100% inventory -2 Clearance project	133 acres @ 100% 100% of park	16 sites/none to modern standards	none/none	WACC base maps show clearances; PISO CAD map shows site locations	no/no	unknown/no	none
HALE	Preliminary overview 1978/ RMP under review	-3 Inventory -62 Clearance survey -1 Inventory/excavation -3 Reconnaissance	492 acres 2% of park	361 sites/ 6 to modern standards	6/none	WACC base maps have accurate plots of projects and sites; PISO CAD maps	no/yes	HALE, Bishop Museum/ Unknown	On Register: 1. Crater Historic District (11/1/74)
HAVO	Overview in prep/ RMP under review	-21 Inventory survey -14 Reconnaissance -116 Clearance survey -22 Excavation/testing -17 Mapping	3,717 acres @ 95% 2% of park	804 sites/70 to modern standards	none/none	WACC base maps have clearance projects plotted; PISO CAD maps	250 sites/no	HAVO, Bishop Museum/ Artifacts at HAVO catalogued in ANCS	On Register: 1. Puna-ka'u Historic District (7/1/74) 2. Wilkes Campsite (7/24/74) 3. Old Volcano House (7/24/74) 4. Whitney Seismograph Vault No. 29 (7/24/74) 5. Kilauaea Crater (7/24/74) 6. Seventeen-Ninety Footprints (8/7/74) 7. Ainapo Trail (8/30/74)
KAHO	RMP under review	-8 Inventory survey -1 Excavation -8 Clearance survey	300 acres @ 100% 216 acres @ 50% 50% of park	312 sites/ 7 to modern standards	312/none	WACC base maps have clearances plotted. Plots for most sites recorded before 1991 are approximate; PISO CAD maps	yes/yes	KAHO, Bishop Museum/Some of the Artifacts at KAHO are catalogued in ANCS	On Register: 1. Kaloko-Honokohau NHP 11/10/78 2. Honokohau Settlement NHL (12/29/62)
KALA	1985/RMP under review	-29 Inventory survey -15 Clearance survey -6 Excavation/testing -6 Historic resource study -1 Reconnaissance/mapping -9 Mapping	505 @ 100% 5% of park	475 sites/ 475 to modern standards	0/5	WACC base maps have clearances plotted; PISO CAD maps	no/no	KALA, Bishop Museum/ Artifacts at KALA are catalogued in ANCS	On Register: 1. Kalaupapa NHL 1/7/76 2. USCG Moloka'i Light 3/25/82
NPSA	Overview in prep/RMP under review	-1 Inventory survey -1 Excavation	No systematic survey	82 sites/ ? to modern standards	none/none	No WACC base maps; PISO CAD maps	no/no	Unknown	none
PUHE	none/RMP under review	-4 Inventory -11 Clearance survey -3 Excavation/testing -4 Mapping	84.3 acres 100% of park	34 sites/ none to modern standards	none/none	WACC base maps have plots of clearances; PISO CAD maps	no/no	PUHE, Bishop Museum/ Artifacts at PUHE catalogued in ANCS	On Register: 1. Pu'ukohola Heiau National Historic Site (10/15/66)

TABLE 4.1 (Continued)

PARK	OVERVIEW DATE/RMP DATE	PREVIOUS ARCHEOLOGICAL PROJECTS	ACRES SURVEYED/ % PARK SURVEYED	TOTAL SITES RECORDED/ # RECORDED TO MODERN STANDARDS	NPS FORMS/ STATE FORMS	BASE MAPS/ CAD MAPS	SITE DATA BASES: ASMIS/ WACC	WHERE ARE ARTIFACTS? CATALOGUED IN ANCS?	NATIONAL REGISTER OF HISTORIC PLACES
PUHO	none/RMP under review	-2 Survey and mapping -8 Clearance survey -12 Excavation -2 Excavation and mapping -2 Excavation and stabilization -3 Stabilization	182 acres @ 100% 100% of park	51 sites/? to modern standards	none/none	WACC base maps have plots for clearances; PISO CAD maps have good plots for sites recorded after 1963	no/no	PUHO and Bishop Museum/Artifacts at PUHO catalogued in ANCS	On Register: 1. Pu'uhonua o Honaunau NHP(10/15/66)
USAR	none/RMP 1996	-1 Underwater mapping project	2.5 acres underwater	1 ship: USS <i>Arizona</i>	none/none	No WACC base maps. Detailed maps of ship prepared by SCRU.	no/no	USAR/Artifacts at USAR catalogued in ANCS	On Register: 1. USS <i>Arizona</i> Memorial (10/15/66)
WAPA	none/RMP under review	-1 Inventory survey -3 Clearance survey -3 Clearance survey/testing -1 Reconnaissance	13 acres surveyed systematically 1% of park	106 sites/ ? to modern standards	none/none	WACC base maps have plots for clearances; PISO CAD maps	no/no	WAPA/ Unknown	On Register: 1. War in the Pacific NHP (8/18/78) 2. Memorial Beach Park (8/7/74) 3. Agat Invasion Beach (3/4/75) 4. Matque River Valley Battle Area (4/3/75) 5. Pii Coastal Defense Guns (6/18/75) 6. Asan Ridge Battle Area (7/18/75) 7. Asan Invasion Beach (2/14/79)
10 NPS UNITS	1 overview, 1 preliminary, 2 in prep/1RMP, 8 RMPs under review	497 archeological projects conducted. Projects conducted at all units.	5,645 acres surveyed. This is about 2% of Pacific Islands Cluster.	2,242 sites; at least 25% recorded to modern standards		8 parks have Base Maps 9 parks have CAD maps 1 park has SCRU map		Artifacts at some park units are catalogued in ANCS.	22 National Register properties in Pacific Islands Cluster

Key

- ANCS = Automated National Cataloguing System
- ASMIS = Archeological Sites Management Information System
- CAD = Computer Aided Drafting
- PISO = Pacific Islands Support Office
- RMP = Resource Management Plan
- SCRU = Submerged Cultural Resources Unit, NPS, Santa Fe

ACRES AND PERCENT OF PARK SURVEYED

Archeological survey has been conducted at every park unit in the Pacific Islands Cluster. As shown in Table 4.2, the surveys vary from intensive systematic surveys to small clearance surveys to reconnaissance projects with unknown survey coverage. The percentage of survey completed in each unit also is shown.

Three of the ten park units in the Cluster have been completely surveyed--American Memorial Park, Pu`uhonua o Honaunau National Historic Site, and Pu`ukohola Heiau National Historical Park. Kaloko-Honokohau National Historical Park has 50 percent survey coverage. Three of these four parks are listed on the National Register in their entirety; the exception is American Memorial Park. Although the percentage of land surveyed in these four parks is quite high, the site records and maps are not up to modern standards of recording.

Five percent of Kalaupapa National Historic Site, another park listed entirely on the National Register, has been surveyed. Two percent of Haleakala National Park and Hawaii Volcanoes National Park has been surveyed and about one percent of War in the Pacific National Historical Park has been examined for cultural resources. The survey coverage of the National Park of American Samoa is unknown. The underwater mapping at the USS *Arizona* Memorial has produced maps of the ship but more detailed mapping of the artifacts and ship's apparel is needed.

TABLE 4.2. PERCENT OF PARK UNIT SURVEYED

PERCENT SURVEYED	NUMBER	PARK UNITS
100% of Park	3	AMME, PUHE, PUHO
50%	1	KAHO
5%	1	KALA
2%	2	HALE, HAVO
1%	1	WAPA
Unknown survey coverage	1	NPSA
Underwater survey	1	USAR

ARCHEOLOGICAL SITES RECORDED AND QUALITY OF SITE RECORDS

In addition to knowing how much of the park has been surveyed, it is important to look at the number of sites recorded and the documentation level of the sites. Table 4.1 lists the number of sites recorded in each park unit and whether or not the site records meet modern standards. Whether or not the in-house NPS forms or official state forms are known to exist is noted. More than 2,200 archeological sites have been recorded in the Pacific Islands Cluster.

The state of the Cluster's archeological site records is quite variable; our best guess is that only 25 percent of the sites recorded have site forms that meet modern standards of recording. Most site records that do meet standards appear to be from recent work at Haleakala National Park, Hawaii Volcanoes National Park, and Kalaupapa National Historic Site.

Because many sites were recorded during early reconnaissance surveys, often only a few lines of description and no topographic map plots of site locations are available. The number of known sites is, nonetheless, very impressive. Relocating and rerecording sites with poor records frequently can be incorporated into systematic surveys undertaken under SAIP. Systematic surveys of areas previously covered by reconnaissance surveys may lead to the discovery of sites overlooked by reconnaissance crews who were geared toward locating large or obvious sites.

BASE MAPS

Base maps with archeological clearances plotted for eight parks are housed at WACC. Some site and project data are on these maps. The base maps for Hawaii Volcanoes National Park are among the most complete. Computer-generated maps are available for all the Cluster's parks at the Pacific Islands Cluster Support Office. Detailed maps of the USS *Arizona* Memorial appear in the Submerged Cultural Resource Study completed by Lenihan and others (1989).

Detailed base maps can be used for a variety of purposes. The base maps should have the boundaries of archeological surveys and the locations of archeological sites accurately plotted. The map information should be coded and linked to project and site data so that archeologists can determine if a proposed undertaking requiring compliance will require a field visit by an archeologist or if the data on file are sufficient to prepare compliance documentation.

Preparing and updating base and computer-generated maps is important for managing cultural resources.

SITE DATA BASES

Not much site data for the Pacific Islands Cluster parks is in archeological data bases. Only 250 sites from Hawaii Volcanoes National Park have been entered in the ASMIS. Limited site data for Haleakala National Park and Kaloko-Honokohau National Historical Park can be found in the WACC site data base.

The ASMIS is an important tool for management. One interesting feature of the ASMIS is that it allows entry of the level of documentation available for the sites. By coding that there are poor site records and missing data for site location, site condition, or other essential types of information, resulting ASMIS reports can be used to justify funding requests.

ARTIFACT LOCATION AND STORAGE CONDITIONS

The storage location of artifacts collected by archeological projects is listed for each park unit in Table 4.1. Collections for all the Hawaiian parks except the USS *Arizona* Memorial can be found at the Bishop Museum. Collections also are present in at least eight park units. The locations of collections from American Memorial Park and the National Park of American Samoa are not known. Several parks with collections--including Hawaii Volcanoes National Park, Kaloko-Honokohau National Historical Park, Pu'ukohola Heiau National Historic Site, Pu'uho'oua o Honaunau National Historical Park, and the USS *Arizona* Memorial--are catalogued in the NPS Automated National Cataloging System (ANCS).

NATIONAL REGISTER

Six parks in the Pacific Islands Cluster are listed in the National Register of Historic Places in their entirety: Kaloko-Honokohau National Historical Park, Kalaupapa National Historic Site, Pu'ukohola Heiau National Historic Site, Pu'uho'oua o Honaunau National Historical Park, the USS *Arizona* Memorial, and War in the Pacific National Historical Park. National Register properties are present at Haleakala National Park and Hawaii Volcanoes National Park. Twenty-two properties in the Pacific Islands Cluster are listed in the NRHP.

SUMMARY

Archeological inventory surveys and baseline documents are needed for the Pacific Islands Cluster parks. Archeological overview and assessments either are out-of-date or do not exist. More than 400 archeological projects have been done but few have produced site forms or maps that meet modern standards. Only about two percent of the lands in the Pacific Islands Cluster have been systematically surveyed for cultural resources. Base maps and computer-generated maps need updated information not only for site locations but also for the areal extent of archeological survey projects. Ninety percent of the known sites need to be added to the ASMIS, an important tool for management and for requesting project funding. The number of park units listed in the National Register in their entirety and the number of National Register properties in the parks should make several proposed SAIP projects score well in the funding competition for the Pacific West Region.

CHAPTER 5

PROPOSED SAIP PROJECTS FOR THE PACIFIC ISLANDS CLUSTER

The overall goal of the Systemwide Archeological Inventory Program is to establish guidelines for inventorying each park. Some things we hope to achieve in the Pacific Islands Cluster are to survey small park units at 100 percent coverage; survey a sufficient sample of medium- to large-sized parks to be able to describe the time period and culture group, relative to the different environmental zones in each park; survey developed areas, roads, and trails; and complete the necessary baseline studies.

RECOMMENDED SURVEY COVERAGE

The recommended survey coverage for the parks in the Pacific Islands Cluster is guided by several factors and is expected to change over the life of the SAIP funding initiative. The park units in this Cluster are remarkably diverse in size, environment and cultural remains. To determine that all parks should be surveyed at the same level of coverage or intensity would not make sense. See Table 5.1.

Two of the most important factors in recommending survey coverage are the significance of the archeological resources in the park unit and management considerations such as visitor use or natural threats to sites. The lack of good baseline data for a park might require conducting a sample survey before determining recommended survey coverage.

TABLE 5.1. PARK UNIT AND PRESENT VS. PROPOSED SURVEY COVERAGE

Park	Size in Acres	Present Survey Coverage	Entire Park on National Register?	Proposed Survey Coverage
AMME	133	100%*	No	100%
HALE	28,655	2%	No	20%
HAVO	229,615	2%	No	50%
KAHO	1,160	50%	Yes	100%
KALA	10,726	5%	Yes	80%
NPSA	8,803	Unknown	No	20%
PUHE	85	100%*	Yes	100%
PUHO	181	100%*	Yes	100%
USAR	<1	N/A	Yes	N/A
WAPA	1,960	1%	Yes	100%

*This park has 100% survey coverage but the site forms and base maps need to be updated.

Three of the Pacific Islands Cluster parks have been completely surveyed--American Memorial Park, Pu'uhonua o Honaunau National Historical Park, and Pu'ukohola Heiau National Historic Site. Each of these parks is less than 1,000 acres in size. The site forms and base maps for these parks, however, need to be updated. Two of these park units are listed in the NRHP.

The survey coverage in the other Pacific Islands Cluster parks ranges from one to 50 percent. War in the Pacific National Historic Park has one percent of its lands systematically surveyed. The coverage at Haleakala and Hawaii Volcanoes national parks is at two percent and the survey coverage at Kalaupapa National Historic Site is at five. The 50 percent coverage at Kaloko-Honokohau National Historic Park is due to an ongoing survey project.

Although sites have been recorded in the National Park of American Samoa, the actual survey coverage is unknown. The USS *Arizona* Memorial has no surveyable land; the visitor center is built on fill.

How much survey is enough? One-hundred-percent survey coverage is not the best alternative for all parks. Some have land holdings so enormous, this task becomes impractical. Others have areas with little potential for the discovery of archeological remains because of rugged terrain or heavy ground cover. We have attempted to determine where the survey needs are most pressing and where survey will be most productive, either in the number of sites or in the quality of the site records.

We recommend 100 percent survey for the small parks with highly significant sites: American Memorial Park, Kaloko-Honokohau National Historical Park, Pu'uhonua o Honaunau National Historical Park, Pu'ukohola Heiau National Historic Site, and War in the Pacific National Historical Park.

Kalaupapa National Historic Site has highly significant resources throughout its lands, but, given the rough terrain in some parts of the park and the dense vegetation cover in other areas, a realistic target for archeological survey is 80 percent. A more modest survey target of 20 percent is proposed for Haleakala National Park, Hawaii Volcanoes National Park, and the National Park of American Samoa. Proposing a percentage of coverage is inappropriate for the USS *Arizona* Memorial, but an underwater inventory is needed.

THE PROJECT STATEMENTS

Eighty-one project statements proposed for the Pacific Islands Cluster appear to be eligible for SAIP funding. It is important that all projects meet the criteria of this funding source as outlined in this document and in the SAIP document (Aubry and others 1992).

The project statements are presented in Table 5.2, listed by park name. The RMP, 10-238 Package Number, and/or PMIS number are shown when available. The cost per year and total project cost in 1998 dollars both are listed. A checklist of the priority factors taken from the 1992 SAIP document indicates which factors apply to each project. The comments column is used when appropriate.

**TABLE 5.2
PROPOSED SAIP PROJECT STATEMENTS FOR PACIFIC ISLANDS CLUSTER PARKS**

PARK	SAIP PROJECT STATEMENTS	RMP #/ 10-238 PKG #/ PMIS #	SCOPE OF PROJECT	COSTS IN 1998 DOLLARS		SAIP PRIORITY FACTORS							COMMENTS	
				PER YEAR	TOTAL	1	2	3	4	5	6	7		
AMME	1. Archeological Overview and Assessment; Update Base Map		Produce an overall description of the park's archeology, describe previous research, and provide direction for future research; update base map.	1. 50,000	50,000	X						X		Baseline Study
	2. Archeological Research Design		Preparation of scholarly document that can be used to direct future archeological research and investigations.	1. 35,000	35,000	X						X		Baseline Study
	3. Enter archeological site data in ASMIS database		Site data for 36 known sites will be entered into the Archeological Sites Management Information System (ASMIS) database.	1. 1,000	1,000	X								
HALE	1. Archeological Overview and Assessment; Update Base Map	HALE-C-001.001 PMIS 34558	Produce an overall description of the park's archeology, describe previous research, and provide direction for future research; includes preparation/update of base map.	1. 50,000	50,000	X						X		Baseline Study
	2. Archeological Research Design	HALE-C-013.000 PMIS 34614	Preparation of scholarly document which can be used to direct future archeological research and investigations.	1. 35,000	35,000	X						X		Baseline Study
	3. Enter archeological site data in ASMIS database	HALE-C-004.000 PMIS 34780	Site data for approximately 200 known sites will be entered into the Archeological Sites Management Information (ASMIS) database.	1. 5,000	5,000	X								
	4. Archeological survey of trails and developed areas	HALE-C-016.000 PMIS 34823	Survey land along trails and in and around developed areas where high visibility of archeological remains puts them at risk of vandalism or accidental damage.	1. 50,000 2. 50,000	100,000	X	X	X			X		X	
	5. Resurvey and GIS Kipahulu archeological sites	HALE-C-006.001 PMIS 34764	Create GIS for 210 acres surveyed in 1974. More than 70 sites and 500 features recorded. Locate and GPS sites and features. Record to modern standards.	1. 50,000 2. 50,000 3. 50,000	150,000	X					X		X	
	6. Lower Ka'apahu archeological inventory	HALE-C-014.000 PMIS 34781	Reconnaissance of 2,000 acres of newly acquired land.	1. 50,000 2. 50,000	100,000	X					X		X	New lands, survey needed for planning. Steep-sided valleys make reconnaissance appropriate.

TABLE 5.2 (Continued)

PARK	SAIP PROJECT STATEMENTS	RMP #/ 10-238 PKG #/ PMIS #	SCOPE OF PROJECT	COSTS IN 1998 DOLLARS		SAIP PRIORITY FACTORS							COMMENTS
				PER YEAR	TOTAL	1	2	3	4	5	6	7	
HALE (Cont'd)	7. Record pictographs	HALE-C-017.000 PMIS 34825	Detailed recording of pictographs to include modern imaging techniques.	1. 30,000 2. 30,000	60,000	X	X			X		X	
	8. Lower Kipahulu archeological inventory survey	HALE-C-006.002 PMIS 34771	Survey 200 acres including new lands adjacent to previously surveyed parcel. GPS and record all sites and features. Anticipate high site density.	1. 50,000 2. 50,000 3. 50,000	150,000	X				X		X	New lands; survey needed for planning.
	9. Archeological cave inventory	HALE-C-015.000 PMIS 34819	Record archeological sites in known caves in the park.	1. 50,000 2. 50,000	100,000	X	X			X		X	
	10. Document basalt adze quarry and workshops, Haleakala National Park	HALE-C-018.000 PMIS 34828	Record adze quarry on edge of crater and associated reduction stations.	1. 50,000	50,000	X				X		X	
HAVO	1. Emergency survey of Puna-Ka'u Historic District	HAVO-C-003.000 Pkg 252 PMIS 18266, PMIS 4573	Continue survey of Puna-Ka'u Historic District in the Panau Nui and Panau Iki <i>ahupua'a</i> of the park. In area of active lava flows.	1. 39,250-FY96 2. 58,363-FY97 3. 49,000-FY98 4. 50,000 5. 50,000	246,643	X	X		X	X		X	Years 1, 2 and 3 funded 1996-1998
	2. Archeological survey along historic trails, roads, and boundaries	HAVO-C-004.000 Pkg 331 PMIS 18267	Trails, roads, and the boundaries of districts, <i>ahupua'a</i> and <i>ili</i> are associated with many types of features.	1. 50,000 2. 50,000	100,000	X	X	X		X		X	
	3. Record petroglyphs at locations throughout the park	HAVO-C-005.000 Pkg 332 PMIS 18268	Fund travel and living expenses for volunteers to record rock art throughout the park.	1. 2,000-FY96 2. 12,650-FY97 3. 12,700 4. 13,000	40,350	X	X			X		X	Volunteers have produced reports on their work conducted in the park. Does not include Pu'a Lea Petroglyphs.
	4. Archeological Overview and Assessment	HAVO-C-006.000 Pkg 341 PMIS 4650	Prepare archeological overview and assessment and incorporate material gathered for unfinished overview of Ka'u District. Add information to park Cultural Resources Bibliography.	1. 50,000	50,000	X						X	Baseline study
	5. Map, inventory, and assess lava tube caves	HAVO-C-007.000 Pkg 216 PMIS 18269	Survey caves susceptible to human or natural impact. Interdisciplinary team required.	1. 50,000 2. 50,000	100,000	X	X			X		X	

TABLE 5.2 (Continued)

PARK	SAIP PROJECT STATEMENTS	RMP #/ 10-238 PKG #/ PMIS #	SCOPE OF PROJECT	COSTS IN 1998 DOLLARS		SAIP PRIORITY FACTORS							COMMENTS			
				PER YEAR	TOTAL	1	2	3	4	5	6	7				
HAYO (Cont'd)	6. Update archeological site records and assess known sites	HAYO-C-010.000 Pkg 300 PMIS 18271	Organize site and feature data, update records and assess condition of sites with inadequate records, update base maps, and assign state site numbers.	1. 35,000	35,000	X										
	7. Emergency lava/fire survey and excavation	HAYO-C-011.000 Pkg 376 PMIS 6915	Assemble archeological crew to respond to lava flows or to survey in areas cleared by fire. Excavate hearths and caves threatened by lava.	1. 50,000 2. 50,000 3. 50,000 4. 50,000	200,000	X	X				X				X	
	8. Create cultural GIS data base	HAYO-C-013.000 Pkg 375	Organize, integrate and digitize archeological GPS data into GIS system.	1. 15,000 2. 10,000	25,000	X										
	9. Archeological survey and test excavations on Mauna Loa	HAYO-C-015.000 Pkg 377 PMIS 18273	Conduct sample survey and limited test excavation in this poorly known, high elevation area of the park	1. 40,000 2. 40,000 3. 40,000 4. 37,000	157,000	X					X				X	
	10. Survey 1790 Footprints' National Register District	HAYO-C-017.000 Pkg 291 PMIS 18275	Survey 4,200 acres National Register District and adjacent Ka'u Desert areas with footprints in volcanic ash deposit.	1. 49,000-FY98 2. 50,000	99,000	X	X			X	X				X	Year 1 funded in 1998
	11. Analyze aerial photographs, looking for evidence of archeological sites	HAYO-C-018.000 Pkg 299 PMIS 18276	Analysis of existing aerial photographs, limited ground verification of site locations and a report with recommendations are proposed.	1. 27,400	27,400	X					X				X	This analysis is a cost-effective approach for this park because of sparse vegetation cover in many areas of this park.
	12. Survey sample areas of park	HAYO-C-020.000 Pkg 372 PMIS 18277	Conduct random sample survey in all areas of park to acquire basic information about site density and site types.	1. 50,000	50,000	X					X				X	Little is known about 97% of park lands. This information would be used for planning future inventory projects.
	13. Complete Pu'u Loa Petroglyph field map and report	HAYO-C-023.000 PMIS 18278	Complete mapping and recording at large petroglyph site. More than 25,000 glyphs recorded already. Add data to base maps. Complete summary report on the site for managers, interpreters, and researchers.	1. 25,000 2. 10,000	35,000	X					X				X	

TABLE 5.2 (Continued)

PARK	SAIP PROJECT STATEMENTS	RMP #/ 10-235 PKG #/ PMIS #	SCOPE OF PROJECT	COSTS IN 1998 DOLLARS		SAIP PRIORITY FACTORS							COMMENTS
				PER YEAR	TOTAL	1	2	3	4	5	6	7	
HAVO (Cont'd)	14. Survey park headquarters development area		Survey and limited testing in developed areas to find features associated with use from prehistoric through CCC and NPS eras. Incorporate previous archeological survey data.	1. 50,000	50,000	X	X	X		X		X	
	15. Survey Steam Flats		Historic resources	1. 30,000	30,000	X				X		X	
	16. Survey Half-Way House		Survey to find trails to and location of the Half-Way House.	1. 20,000	20,000	X				X		X	
	17. Survey Pula to Keauhou Trail		Survey to determine route of trail and locations of features associated with Pula factory.	1. 20,000	20,000	X				X		X	
	18. Survey Waldron Ledge		Historic resources	1. 20,000	20,000	X				X		X	
	19. Archeological Research Design	HAVO-C-016.000 PMIS 8604	Preparation of scholarly document which can be used to direct future archeological research and investigations.	1. 40,000	40,000	X						X	
	20. Enter archeological site data in ASMIS database		Site data for 800 known sites will be entered into the Archeological Sites Management Information System (ASMIS) database.	1. 15,000	15,000	X							
KAHO	1. Survey Honokohau, resurvey portions of Kaloko and underwater survey of Honokohau Bay	KAHO-C-010.02 Pkg 810 PMIS 6361	Three year project.	1. 52,240 2. 59,800 3. 45,000	157,040	X	X	X	X	X		X	Ongoing project. First two years funded.
	2. Enter archeological site data in ASMIS database	KAHO-C-010.01 Pkg 810 PMIS 37229	Site data for 300 known sites will be entered into the Archeological Sites Management Information System (ASMIS) database.	1. 6,000	6,000	X							Baseline Study
	3. Archeological Overview and Assessment		Produce an overall description of the park's archeology, describe previous research, and provide direction for future research.	1. 35,000	35,000	X						X	Baseline Study

TABLE 5.2 (Continued)

PARK	SAIP PROJECT STATEMENTS	RMP #/ 10-238 PKG #/ PMIS #	SCOPE OF PROJECT	COSTS IN 1998 DOLLARS		SAIP PRIORITY FACTORS							COMMENTS	
				PER YEAR	TOTAL	1	2	3	4	5	6	7		
KAHO (Cont'd)	4. Archeological Research Design		Preparation of scholarly document which can be used to direct future archeological research and investigations.	1. 40,000	40,000	X						X		Baseline Study
KALA	1. Archeological survey in Waikolu Valley	KALA-C-022.000	Survey of wet taro fields and associated features.	1. 50,000 2. 50,000 3. 50,000	150,000	X			X	X			X	
	2. Archeological survey of Kauhako Trench	KALA-C-053.000	Survey of collapsed lava channel.	1. 30,000 2. 30,000	60,000	X			X	X				X
	3. Archeological survey of Kauhako Crater, Phases I and II	KALA-C-054.001 KALA-C-054.002 Pkg 224 PMIS 6718	Crater used extensively in prehistoric and historic periods. Research and field work.	1. 14,000-FY98 2. 45,000	59,000	X			X	X				X
	4. Archeological survey of Waianau Valley	KALA-C-089.000	Survey approximately 50 acres of valley adjacent to parcel surveyed in 1987.	1. 40,000 2. 40,000	80,000	X			X	X				X
	5. Archeological sample survey of Makanalua Makai Ahupua'a	KALA-C-091.000	Sample survey of one third of Kalaupapa Peninsula including numerous sweet potato fields.	1. 50,000 2. 50,000	100,000	X			X	X				X
	6. Archeological survey of Makanalua Mauka Ahupua'a	KALA-C-057.000	Survey approximately 275 acres.	1. 50,000 2. 50,000	100,000	X			X	X				X
	7. Archeological survey of Kalawao Makai fields	KALA-C-062.001 PMIS 34298	Survey of 12 acres. Known sites include pre-and postcontact period sites as well as sites associated with 1866 Kalawao Hansen's disease settlement.	1. 45,000	45,000	X			X	X				X
	8. Archeological survey of Wa'ale'ia Valley	KALA-C-090.000	Survey about 200 acres in valley.	1. 50,000 2. 50,000 3. 50,000	150,000	X			X	X				X
	9. Archeological sample survey of Kalawao Makai Ahupua'a	KALA-C-094.000	Sample survey of one third of Kalaupapa Peninsula including numerous sweet potato fields.	1. 50,000 2. 50,000 3. 50,000	150,000	X			X	X				X

TABLE 5.2 (Continued)

PARK	SAIP PROJECT STATEMENTS	RMP #/ 10-238 PKG #/ PMIS #	SCOPE OF PROJECT	COSTS IN 1998 DOLLARS		SAIP PRIORITY FACTORS							COMMENTS
				PER YEAR	TOTAL	1	2	3	4	5	6	7	
KALA (Cont'd)	10. Archeological survey of Kalawao Settlement	KALA-C-062 PMIS 18369	Survey 73 acres of historic Kalawao Settlement, including Baldwin Home, research hospital, church grounds and section of Damien Road.	1. 50,000 2. 50,000	100,000	X			X	X		X	
	11. Archeological survey of Kalaupapa Mauka Ahupua'a	KALA-C-092.000	Survey about 150 acres Mauka the settlement of Kalaupapa with numerous stone walls, platforms and terraces.	1. 50,000 2. 50,000 3. 50,000	150,000	X			X	X		X	
	12. Archeological sample survey of Kalaupapa Makai Ahupua'a	KALA-C-093.000	Sample survey of one-third of Kalaupapa Peninsula including numerous sweet potato fields.	1. 50,000 2. 50,000 3. 50,000	150,000	X			X	X		X	
	13. Archeological survey of Kalaupapa Settlement	KALA-C-063 PMIS 18370	Survey 160 acres (40 acres open ground) of historic Kalaupapa Settlement.	1. 50,000 2. 50,000	100,000	X		X	X	X		X	
	14. Archeological survey of Nihoa	KALA-C-064.000	Survey 25 acres in Nihoa coastal land section.	1. 30,000 2. 30,000	60,000	X			X	X		X	
	15. Archeological survey of submerged lands, Kalaupapa	KALA-C-065.000	Survey submerged lands around Kalaupapa Peninsula. Requires scuba equipment and boat.	1. 50,000 2. 50,000	100,000	X	X		X	X		X	
	16. Archeological survey of caves at Kalaupapa	KALA-I-20	Survey caves.	1. 50,000	50,000	X	X		X	X		X	
	17. Archeological Overview and Assessment	KALA-C-088.000 PMIS 34294	Produce an overall description of the park's archeology, describe previous research, and provide direction for future research.	1. 50,000	50,000	X						X	Baseline Study
	18. Enter archeological data in ASMIS database	KALA-C-095	Site data for 500 known sites will be entered into the Archeological Sites Management Information System (ASMIS) database.	1. 40,000	40,000	X							
19. Archeological Research Design	KALA-C-096	Preparation of scholarly document that can be used to direct future archeological research and investigations.	1. 50,000	50,000	X						X	Baseline Study	

TABLE 5.2 (Continued)

PARK	SAIP PROJECT STATEMENTS	RMP #/ 10-238 PKG #/ PMIS	SCOPE OF PROJECT	COSTS IN 1998 DOLLARS		SAIP PRIORITY FACTORS							COMMENTS		
				PER YEAR	TOTAL	1	2	3	4	5	6	7			
NPSA	1. Publish Archeological Overview and Assessment	NPSA-C-001.000 Pkg 101 PMIS 5324	Publish and distribute overview and assessment of NPSA currently being prepared by Dr. Terry Hunt, University of Hawaii.	1. 5,000	5,000	X						X		Baseline Study	
	2. Archeological Research Design		Preparation of scholarly document that can be used to direct future archeological research and investigations.	1. 40,000	40,000	X						X		Baseline Study	
	3. Reconnaissance archeological survey of Ofu Unit	NPSA-C-002.001 Pkg 102 PMIS 18477	Archeological survey of NPSA holdings in Ofu Unit.	1. 30,000	30,000	X					X		X		
	4. Reconnaissance archeological survey of Tutuila Unit	NPSA-C-006.001 Pkg 105 PMIS 18479, 5327	Reconnaissance survey of 1,300 acres. Rough country with rainforest and other types of forest.	1. 50,000 2. 50,000 3. 50,000	150,000	X					X			X	
	5. Reconnaissance archeological survey of Ta'u Unit	NPSA-C-007.001 Pkg 106 PMIS 18480, 5328	Reconnaissance survey of 4,440 acres.	1. 50,000 2. 50,000 3. 50,000	150,000	X					X			X	
	6. Enter archeological site data in ASMIS database		Initiate ASMIS contingent on completion of surveys.	1. 5,000	5,000	X									
PUHE	1. Document Pelekane archeological site	PUHE-C-003.000 Pkg 138 PMIS 7157	Surface and subsurface survey of area believed to be the royal residence of Kamehameha II.	1. 50,000 2. 50,000	100,000	X	X	X	X	X			X	Erosion has exposed a feature. Area threatened by flooding.	
	2. Archeological Overview and Assessment; Update Base Map	PUHE-C-013.000 Pkg 222 PMIS 35361	Overview and assessment will include fieldwork to verify base map created from 1965 fieldwork. Recording will include GPS, measurement, description and photographs of all features.	1. 50,000 2. 25,000	75,000	X						X		Baseline Study	
	3. Enter archeological site data in ASMIS database	PUHE-C-014.000 Pkg 223 PMIS 35363	Site data for approximately 120 known sites will be entered into the Archeological Sites Management Information (ASMIS) database.	1. 4,000	4,000	X									

TABLE 5.2 (Continued)

PARK	SAIP PROJECT STATEMENTS	RMP #/ 10-238 PKG #/ PMIS	SCOPE OF PROJECT	COSTS IN 1998 DOLLARS		SAIP PRIORITY FACTORS							COMMENTS	
				PER YEAR	TOTAL	1	2	3	4	5	6	7		
PUHE (Cont'd)	4. Archeological Research Design	PUHE-C-015.000 Pkg 224 PMIS 35369	Prepare a scholarly document which is used to direct further archeological research and investigations.	1. 35,000	35,000	X						X		Baseline Study
PUHO	1. Archeological Overview and Assessment; Update Base Map	PUHO-C-001.000 Pkg 235 PMIS 18536	Overview and assessment will include fieldwork to verify base map created from previous fieldwork. Recording will include GPS, measurement, description and photographs of all features.	1. 50,000 2. 50,000	100,000	X						X		Baseline Study
	2. Enter archeological site data in ASMIS database	PUHO-C-002.001 Pkg 236 PMIS 18537	Site data for approximately 50 known sites will be entered into the Archeological Sites Management Information System (ASMIS) database.	1. 5,000	5,000	X								
	3. Archeological Research Design	PUHO-C-003.001 PMIS 34987	Prepare a scholarly document which is used to direct further archeological research and investigations.	1. 35,000	35,000	X						X		Baseline Study
	4. Complete state site forms	PUHO-C-002.002 PMIS 34975	A description of each of the park sites will be reported to the Hawaii SHPO in a form compatible with the state's computerized archeological database.	1. 36,000	36,000	X								
	5. Archeological survey of cave sites at Pu'uhonua o Honaunau	PUHO-C-010.001 PMIS 34986	Conduct archeological inventory of known cave sites in the park.	1. 30,000 2. 30,000	60,000	X	X		X	X			X	
	6. Prepare a cave management plan	PUHO-C-010.000 Pkg 163 PMIS 18543	Establish guidelines for exploration, mapping, study and public use of caves. Develop measures for conserving and protecting caves. Interdisciplinary team needed.	1. 30,000 2. 30,000	60,000	X								
	7. Archeological study of the Royal Courtyard	PUHO-C-007.000 Pkg 239 PMIS 18541	Conduct subsurface archeological survey in area commonly called the Royal Courtyard seeking evidence of chiefly occupation.	1. 50,000 2. 50,000	100,000	X			X	X			X	

TABLE 5.2 (Continued)

PARK	SAIP PROJECT STATEMENTS	RMP #/ 10-238 PKG #/ PMIS	SCOPE OF PROJECT	COSTS IN 1998 DOLLARS		SAIP PRIORITY FACTORS							COMMENTS
				PER YEAR	TOTAL	1	2	3	4	5	6	7	
USAR	1. Inventory exposed/visible artifacts and portable ship's apparel on the USS <i>Arizona</i> .	USAR-C-068.000	Inventory and map location of artifacts and portable ship's apparel on deck and in damaged areas of the USS <i>Arizona</i> .	1. 40,000 2. 85,000	125,000	X	X	X	X	X		X	Memorial is only a few hundred feet from Ford Island. New bridge to island will bring visitors to nearby USS <i>Missouri</i> . Also, US Navy plans to build offices and housing on Ford Island.
WAPA	1. Locate, evaluate and preserve underwater cultural resources	WAPA-C-001.000 Pkg 133 PMIS 18785	Conduct physical and magnetometer survey of offshore waters, primarily for WW II remains.	1. 90,000	90,000	X	X		X	X		X	
	2. Complete the archeological surface survey	WAPA-C-005.000 Pkg 152 PMIS 18782	Although 90 percent of park previously surveyed, only 1 percent was surveyed systematically. Sites need to be relocated and 10 percent needs to be surveyed.	1. 50,000	50,000	X			X	X		X	
	3. Locate sealed Japanese earthen tunnels	WAPA-C-007.000 Pkg 153 PMIS 18784	Survey 100 acres by inspection and by use of magnetometer and/or resistivity survey. Test excavation at selected, suspected tunnel locations.	1. 50,000	50,000	X			X	X		X	
	4. Archeological Overview and Assessment		Produce an overall description of the park's archeology, describe previous research, and provide direction for future research.	1. 50,000	50,000	X						X	Baseline Study
	5. Archeological Research Design		Preparation of scholarly document that can be used to direct future archeological research and investigations.	1. 40,000	40,000	X						X	Baseline Study
	6. Enter archeological site data in ASMIS database		Site data for approximately 100 known sites will be entered into the Archeological Sites Management Information System (ASMIS) database.	1. 2,500	2,500	X							
	7. Multispectral aerial photography survey	WAPA-C-008.000 Pkg 110 PMIS 18783	Have low level multispectral aerial photos produced. Analysis of photos and field check selected areas.	1. 33,500	33,500	X					X		X
10 Units	81 Project statements for 10 NPS units in Pacific Islands Cluster			Projected costs in excess of \$5.6 million									

These project statements represent the current needs of the ten park units in the Pacific Islands Cluster. The projected costs for these projects exceed 5.6 million dollars. This figure is bound to grow as survey costs increase and the number of proposed archeological inventory projects continues to grow.

The project statements presented in this plan fit several major categories: baseline studies, including overview and assessment documents, and research designs; ASMIS data entry; and survey of developed areas or definable localities. A few special studies also are proposed. Table 5.3 is a summary of the types of project statements developed for each park.

TABLE 5.3. SUMMARY OF PROPOSED PROJECTS FOR EACH PARK

Park	Overview and Assessment	Research Design	ASMIS	Developed Area Survey	Surveys	Special studies	Number of Projects
AMME	Yes; update maps	Yes	Yes				3
HALE	Yes; update maps	Yes	Yes	1 project	3 localities	pictographs, caves, adze quarry	10
HAVO	Yes	Yes	Yes	2 projects	9 localities	2 petroglyph projects, lava tube caves, GIS, update site records, aerial photo study	20
KAHO	Yes	Yes	Yes		1 locality		4
KALA	Yes	Yes	Yes		14 localities	caves, submerged lands	19
NPSA	Yes	Yes	Yes		3 localities		6
PUHE	Yes; update maps	Yes	Yes		1 locality		4
PUHO	Yes; update maps	Yes	Yes		1 locality	2 cave projects, site forms	7
USAR	No	No	No			underwater survey of artifacts and ship's apparel	1
WAPA	Yes	Yes	Yes		1 locality	submerged lands, tunnels, aerial photo study	7
Totals	9	9	9	3	33	18	81

BASELINE STUDIES

The baseline studies that fall under SAIP are archeological overview and assessment documents, research designs, and base maps. Given the lack of up-to-date overview and assessment documents, we propose initiating or completing overviews for nine of the ten Pacific Islands Cluster parks; other types of planning documents are more appropriate for the USS *Arizona* Memorial. An archeological overview and assessment should include an overall description of a park's archeology, a description of previous research and direction for future research. The proposals for American Memorial Park, Haleakala National Park, Pu'uhonua o Honaunau National Historical Park, Pu'ukohola Heiau National Historic Site, and Haleakala National Park include a fieldwork phase for updating the park base maps and site records.

Archeological research designs are scholarly documents that can be used to direct future archeological research and investigations. Preparation of the research design should follow the completion of the

archeological overview and assessment documents. Archeological research designs are proposed for all the Cluster parks except the USS *Arizona* Memorial.

ASMIS DATA ENTRY

Archeological Sites Management Information System (ASMIS) data entry projects are recommended for all parks but the USS *Arizona* Memorial. ASMIS is an important management tool because it quantifies what is known about archeological sites and, just as important, quantifies what data are missing from site records.

SURVEY PROJECTS

Probably the most important thing to know about the archeology of the Pacific Islands Cluster is that many of the archeological sites are made up of multiple stone features. These features range from circles and cairns to terraced agricultural systems and massive constructions such as *heiau* and fish ponds. Mapping the features on these sites adds a great deal of complexity to any archeological survey project conducted on them. The numerous features associated with World War II also require detailed mapping.

Developed area surveys, including roads and trails, are proposed for Haleakala National Park and Hawaii Volcanoes National Park.

Proposed projects for the larger parks are broken into survey localities that can be studied within the time and monetary limits currently recommended by the Pacific West Region's Cultural Resource Advisory Committee. Thirty-three projects are in this category.

SPECIAL STUDIES

The special studies eligible for SAIP funding include survey and recording at rock art sites, cave sites, and the search for buried Japanese earthen tunnels. The submerged archeological projects include an inventory of the artifacts and portable ship's apparel on the USS *Arizona*. Aerial photo studies, developing the cultural component of a park's geographic information system (GIS), and working to update site records also are proposed.

PRIORITIZATION

Based on a number of factors related to both archeological and management issues the process for establishing priorities for cultural resource projects in the Pacific Islands Cluster is reasonably complex and subject to change from year to year. Where do we begin to prioritize 81 archeological projects that will require more than 5.6 million dollars? Prioritization begins at the park level. Park managers need to determine which projects will help them with management, protection, and preservation. Are sites in developed areas being impacted? Is an out-of-date base map causing headaches every time the park wants to conduct routine maintenance? Is the park updating a general management plan to deal with new land acquisitions? Is the word on the grapevine that overview and assessments are being funded this year? Will ASMIS data entry help the park in competing for funds the following year? Priorities within each park are set by the parks themselves when project statements are submitted for budget calls.

The second level of prioritization takes place at the cluster or regional level when a project must compete with the projects submitted by all the parks. Projects may rise to the top of the regional priority list because of threats to cultural resources, because of new land acquisitions, or because of other strategic or management concerns.

Prioritization is going to be a dynamic process over the life of SAIP funding cycles. The priority factors listed below can indicate the importance of specific projects. These factors, however, cannot tell us which projects are the most important for the Pacific Islands Cluster. Project statements can be rewritten and can take on a new focus. In addition, new project statements will be added to the list.

The traditional source of funding for cultural resource projects is the Cultural Resources Preservation Program (CRPP) which includes the Systemwide Archeological Inventory Program (SAIP) funds. These funds may be supplemented with funds donated by cooperating associations or private foundations. The SAIP funds provide the regions with the opportunity to fund cultural resource survey projects that, in turn, will help correct the material weakness identified during the 1991 Management Control Review of the NPS archeology program.

SAIP PRIORITY FACTORS

The seven priority factors from the SAIP document are not weighted and are not listed in a particular order. The priority factors are listed as follows in italic type, followed by comments regarding the Pacific Islands Cluster project proposals in regular type.

- 1. Inventory schedules are coordinated with schedules for developing or revising the park planning documents (GMP, RMP, DCP, Interpretive Prospectus).* Because most of the parks in the Pacific Islands Cluster continue to work on their resource management plans this priority factor applies to all the project statements.
- 2. Park areas that have suffered from, or are likely to be threatened by, the destructive effects of natural processes or human activities are assigned a high priority for archeological inventory.* Seventeen project statements concern threatened resources. The projects responding to the impact of park visitors include the survey of developed areas and trails (HALE, HAVO); rock art recording projects (HALE, HAVO); and the survey of cave sites (HALE, HAVO, KALA, PUHO). The projects that are needed because of natural threats include the survey of the 1790 footprints at Hawaii Volcanoes National Park; surface and subsurface survey of the Pelekane at Pu'ukohola Heiau National Historic Site; and the emergency surveys at Hawaii Volcanoes National Park. The proposed underwater survey areas are threatened by both natural and human activities (KAHO, KALA, USAR, WAPA).
- 3. Development zones and special use zones within a park should be assigned a high priority for archeological inventory.* Three projects are proposed for developed areas or trails at Haleakala and Hawaii Volcanoes National Parks. Special use areas requiring archeological survey are the fishponds at Kaloko-Honokohau; the Kalaupapa Settlement which is still occupied by Hansen's disease patients and their support staff; the Pelekane archeological site at Pu'uhonua o Honaunau; and the USS *Arizona* Memorial which is a war grave.
- 4. Historic zones within parks and entire park units that, by statute, are automatically listed on the NRHP because of their archeological or historical importance should be assigned a high priority for archeological inventory.* Parks or districts on the National Register that require inventory are the focus of 26 project statements. The Puna-ka'u Historic District and the 1790 Footprints at Hawaii Volcanoes are listed on the National Register. The entire park units of Kaloko-Honokohau National Historical Park, Kalaupapa National Historic Landmark, Pu'ukohola Heiau National Historic Site, Pu'uhonua o Honaunau National Historical Park, the USS *Arizona* Memorial, and War in the Pacific National Historical Park also are listed.

5. *Archeological inventory projects that address the research questions, problems, topics, or priorities of state, regional, or national importance should be assigned a high priority.* The proposed archeological field projects all will gather information for the Pacific Islands that is important regionally, statewide, or nationally. Fifty of the project statements fit this category.

6. *Park areas lacking virtually any information about presence or absence of archeological resources should be assigned a high priority for preparation of an archeological overview and assessment.* Archeological sites have been recorded in all the Pacific Islands Cluster parks. Each park, except the USS Arizona Memorial, has proposals for overview and assessment documents as well as research designs to direct the fieldwork projects.

7. *The priority of an archeological inventory project should consider the potential for archeological resources being present and the likelihood of being able to locate (or discover) archeological resources.* The potential for archeological resources being present is cited in all of the project statements for fieldwork projects and also includes the two projects that will examine aerial photographs.

Looking at which SAIP priority factors apply to the Pacific Islands Cluster project statements is interesting. Examination of Table 5.2 shows some projects with only one box checked and others with four, five, or even six boxes checked. In addition to these priority factors, we must consider the importance of funding ongoing SAIP projects and projects that are politically or strategically sensitive. Ultimately the priority of any project statement first must be determined at the park level.

SUMMARY

The 81 project statements presented in the Pacific Islands Cluster Survey Plan are good indicators of our present survey needs but are, by no means, the only survey projects needed to meet our legal requirements under NHPA, EO 11593 and ARPA.

Clearly, overview and assessment documents and archeological research designs are needed for the parks in the Pacific Islands Cluster. Archeological base maps need to be updated. Twenty-two properties are listed on the NRHP; some are the entire NPS unit. Although more than 400 archeological projects have been conducted and more than 2,200 sites have been recorded, only two percent of the lands have been systematically surveyed and only 25 percent of the sites have site records that meet modern standards.

A comprehensive archeological survey program for the Pacific Islands Cluster can be realized by following the guidance of this survey plan. The purpose of this document has not been to set out a strict schedule that must be followed for the next 20 to 30 years, but has been, rather, to outline the status of archeological inventory in the Pacific Islands Cluster and to assess survey needs. In addition, we have tried to provide a framework for summarizing the data that can be updated as surveys are completed and new project statements are developed. The identification, protection, and preservation of important archeological resources in the Pacific Islands Cluster can proceed from here.

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