EXECUTIVE SUMMARY

The Marine Corps Base Camp Joseph H. Pendleton has developed this Integrated Cultural Resources Management Plan (ICRMP) to meet the requirements of Marine Corps Order 5090.2A, OPNAVINST 5090.1B CH-1 23-5.2.1, OPNAVINST 5090.1B CH-1 23-5.2.2, and Department of Defense Instruction 4715.4. An ICRMP is a five-year plan outlining how an installation will manage its cultural resources in compliance with cultural resources statutes, executive orders, presidential memoranda, regulations, and other requirements. The purpose of the ICRMP is to provide guidance and to act as a specific planning document for use by federal resource managers to guide decisions regarding administration of cultural resources on Marine Corps Base Camp Pendleton. The ICRMP describes a management plan and proper technical procedures in the context of facilitating the base mission, which may affect cultural resources. The ICRMP for Camp Pendleton is the U.S. Marine Corps' plan to meet its obligations to preserve historic and prehistoric cultural resources as outlined in section 106 and section 110 of the National Historic Preservation Act of 1966, as amended (NHPA).

The philosophy of Camp Pendleton regarding the implementation of the ICRMP is to integrate cultural resources management requirements and responsibilities with Marine Corps mission essential requirements. The installation approach to applying this philosophy involves the achievement of the following objectives:

- Mission Facilitation
  - maintain the maximum possible capability of Camp Pendleton to support military training and operational requirements by minimizing the number and areal extent (footprint) of cultural resources related limitations
  - provide responsive processing of requests that require section 106 consultation

- Cultural Resources Compliance
  - complete section 110 evaluation of all Camp Pendleton archaeological sites
  - continue ongoing efforts to upgrade and maintain Native American relations
  - continue to preserve and protect all historic properties
  - continue ongoing archival and preservation efforts (digitizing) of all cultural resources management related documents
  - continue ongoing efforts to identify and preserve significant features

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
AC/S ES	Assistant Chief of Staff, Environmental Security
AIRFA	American Indian Religious Freedom Act of 1978
AMSL	Above Mean Sea Level
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act of 1979
BP	Before Present
^{14}C	Carbon 14
CASMET	Condition Assessment, Site Monitoring and Effects Treatment
CFR	Code of Federal Regulations
cm	Centimeter
CPAG	Camp Pendleton Archaeological Geographic Information System Database
CPEN	Camp Joseph H. Pendleton
CRA	Cooperative Research Agreement
CRM	Cultural Resources Manager
°F	Degrees Fahrenheit
DoD	U.S. Department of Defense
DoDI	Department of Defense Instruction
DPR	Department of Parks and Recreation
e^2M	engineering-environmental Management, Inc.
EA	Environmental Assessment
EIS	Environmental Impact Statement
FLETC	Federal Law Enforcement Training Center
FSSG	Force Service Support Group
GIS	Geographic Information System
GPR	Ground Penetrating Radar
GPS	Global Positioning System
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HPCR	Historic Preservation Compliance Reports
ICRMP	Integrated Cultural Resources Management Plan
IMEF	First Marine Expeditionary Force
INRMP	Integrated Natural Resource Management Plan
m	Meter
MAGTF	Marine Air Ground Task Force
MARDIV	Marine Division
MAW	Marine Air Wing
MCAS	Marine Corps Air Station
MILCON	Military Construction
MOA	Memorandum of Agreement
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966, as amended
NRHP	National Register of Historic Places
PA	Programmatic Agreement
PL	Public Law
RPA	Register of Professional Archaeologists
RSU	Reserve Support Unit
SDAC	San Diego Archaeological Center
SHPO	State Historic Preservation Office
SOP	Standard Operating Procedure
STP	Shovel Test Pit
TCP	Traditional Cultural Properties
USGS	U.S. Geological Survey
USMC	U.S. Marine Corps
UTM	Universal Transverse Mercator

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1.0 INTRODUCTION

1.1 INTENT AND PURPOSE OF THE ICRMP

As stipulated in the National Historic Preservation Act of 1966, as amended (NHPA), and in other pertinent cultural resources preservation laws and regulations, the US Marine Corps (USMC), as a federal agency, has the responsibility to identify and preserve cultural resources, or mitigate losses thereto, on lands under its jurisdiction. As such, the purpose of this Integrated Cultural Resources Management Plan (ICRMP) is to provide for the management of cultural resources in the context of facilitating the military mission of the USMC at Camp Joseph H. Pendleton (CPEN), Oceanside, California. ICRMPs are internal USMC compliance and management plans that integrate the entirety of the installation's cultural resources management program with ongoing mission activities, allow for the ready identification of potential conflicts between the installation's mission and cultural resources management, and identify the compliance-driven actions necessary to maintain the availability of properties and acreage that are essential to the installation's mission.

This ICRMP provides requirements and procedures for compliance with federal and state statutes at CPEN (Figures 1-1 and 1-2). These standards and guidelines are intended to provide technical information pertaining to archaeological and historic preservation activities and outline the appropriate methods to avoid, reduce, or otherwise mitigate adverse impacts to cultural resources resulting from programs and activities relating to the CPEN mission. The ICRMP provides additional information addressing the standard operating procedures (SOP) and long-range land-use planning strategies and methods.

This ICRMP serves as a long-term element in a structure to accomplish the mission of the CPEN cultural resources management program. The plan covers a period of five years. Each year it is updated to validate its precepts, reach, and effectiveness. In this way, the plan follows a pattern similar to and integrated with the five-year fiscal program and budget cycle used by the U.S. Department of Defense (DoD). After each five-year period, the ICRMP undergoes a major review by the CPEN command staff. This is the forum to examine long-term management goals, to explore the intended focus of efforts on critical issues, and to achieve consensus regarding these issues.

Cultural resources are buildings, structures, districts, archaeological sites, historic landscapes, traditional cultural properties, Native American sacred sites, and objects of significance in history, architecture, archaeology, engineering, or culture that are eligible for or included in the National Register of Historic Places (NRHP). Cultural resources also include associated documents and records. A cultural resources manager (CRM) provides day-to-day management for cultural resources, helps to ensure that all installation activities are in compliance with applicable cultural resource requirements, and serves as a liaison between all persons involved in the ICRMP.

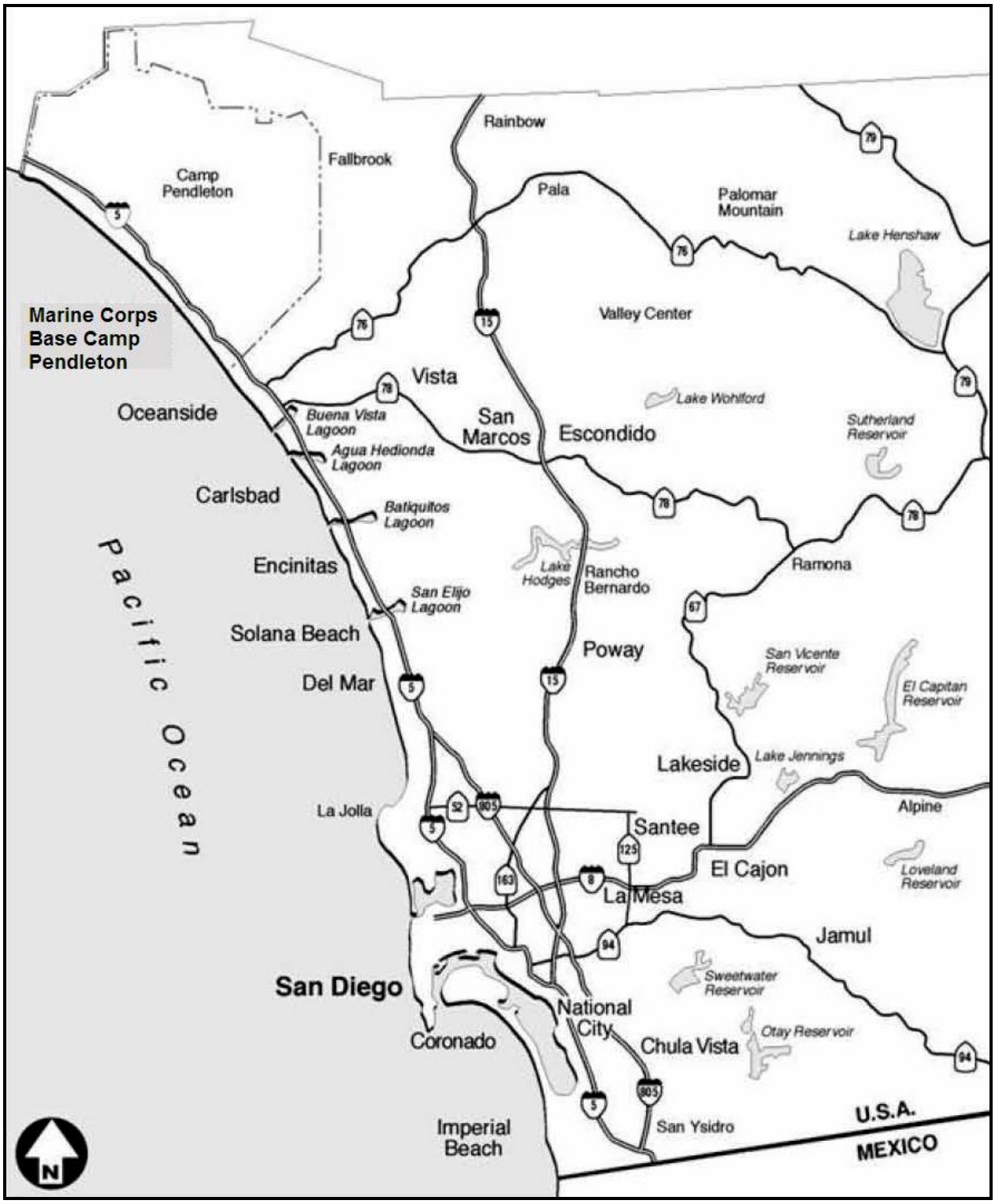

FIGURE 1-1. REGIONAL LOCATION MAP OF CAMP PENDLETON

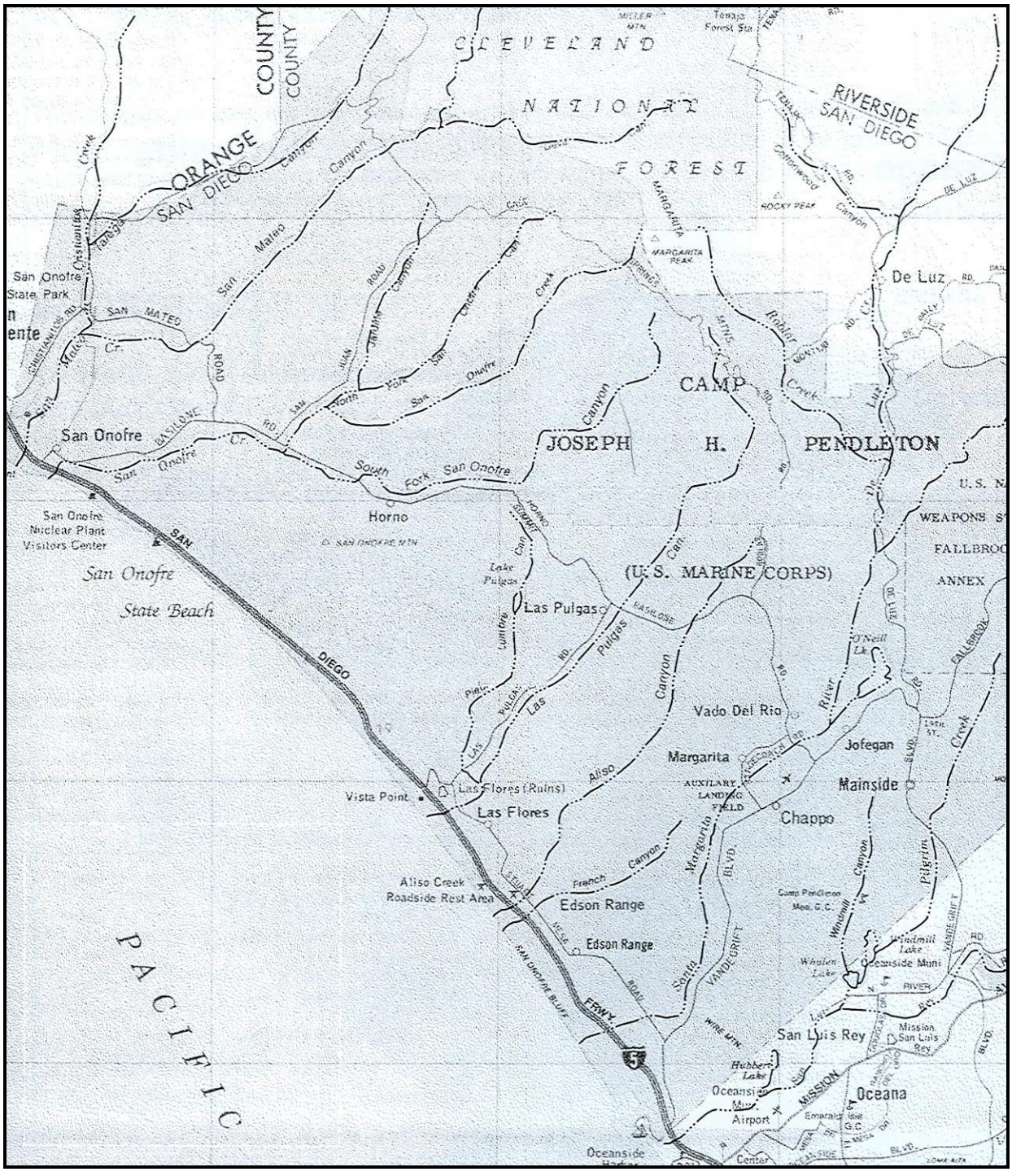

FIGURE 1-2. MAP OF CAMP PENDLETON

The ICRMP describes the CPEN integrated cultural resources management program, which is designed to minimize impacts/restrictions to the military mission, meet compliance requirements, and identify, enhance, and implement program efficiencies. Cultural resources management is "integrated" when the CRM has established processes and procedures to:

- Identify, consider, and protect the capability of the installation to support military mission essential tasks and requirements.
- Improve the overall program over the short- and long-term.
- Maintain the existing program.
- Coordinate with other installation offices that impact cultural resources.
- Consult with outside entities who have a stake in cultural resources on the installation.
- Monitor the success of the program.

The integration of cultural resources management on CPEN should occur at three levels:

- with the daily activities of CPEN
- with other planning documents
- with outside entities

This ICRMP supports the mission of CPEN and helps comply with cultural resources laws. Ideally, this ICRMP will proactively guide the management of cultural resources by establishing procedures that limit and reduce potential conflicts between CPEN's mission and its statutory compliance responsibilities.

1.2 ORGANIZATION AND AUDIENCE

This CPEN ICRMP is designed as a modular document where various sections of the plan are intended for different users. There are three major parts to this document. The first part (chapters 1 through 3) provides background information about CPEN's cultural resources. It presents the intent of the ICRMP, the nature of the CPEN mission, compliance requirements, impacts to cultural resources, a status of knowledge, and a five-year plan. The second part (chapters 4 and 5) should be used by the Assistant Chief of Staff, Environmental Security (AC/S ES), the CRM, and any other base personnel that need to coordinate activities with the CRM. The second part outlines processes to maintain, monitor, and improve the cultural resources management program and includes an integration section that explains the coordination of cultural resources management activities with other installation offices. The final portion of the ICRMP is a variety of appendices intended to augment, clarify, and enhance understanding of the document.

In practice, this ICRMP recognizes that there are three "levels of information" for cultural resources management. The top level of information is the Installation Command. The Installation Command requires information that is concise, informative, and focused on the mission of CPEN, the current state of the CPEN cultural resources program, and future needs of the program. The middle level is occupied by the general installation personnel. This is information that must be shared and integrated with other CPEN offices which may impact cultural resources. The third level of information is the cultural resources level. This is the level at which all the management systems, monitoring thresholds, and other program initiatives are used by the CRM.

This document is designed to be of use to multiple audiences who are concerned with the management of the cultural resources contained within CPEN. These audiences include the following public and private entities:

- USMC Command, as the federal agency responsible for the administration of CPEN, requires an understanding of the cultural resources management of CPEN.
- Operational units and installation staff at CPEN are an equally important audience since such personnel will be responsible for carrying out the ICRMP.
- State and federal CRMs have an important role in the generation of this document and the resulting programmatic agreement (PA), which will authorize the implementation of the ICRMP.
- The professional archaeological community similarly has an interest in the preservation of the prehistoric and historic cultural resources of Southern California.
- Native American governments will be interested in land uses as they relate to areas of religious significance.
- The general public has an interest in the cultural history of their region and how the federal government is managing the cultural resources.

The management of cultural resources is challenging at CPEN due to its size and the wide variety of prehistoric and historic sites. The mission of CPEN requires a plan that supports timely response to the changing needs of military tactics, technology, and research and development, while precluding any unacceptable risk to cultural resources. CPEN serves and supports many units from the USMC and other DoD agencies that have varied facility and land-use requirements, which continually change. There is often limited lead-time for planning and many projects cannot be anticipated until actual work and support requirements are formally submitted. An effective ICRMP must provide guidance in support of the military mission without compromising the integrity of nonrenewable cultural resources. This can only be achieved if the plan is designed to evolve in close coordination with that mission. The responsibility for developing, coordinating, and implementing this ICRMP is under the purview of the AC/S ES. Annual review and updating of the ICRMP are essential to allow the addition or deletion of study questions as new information about the cultural resources at CPEN becomes available.

1.2.1 Internal Installation Integration

The AC/S ES provides the lead and overall oversight of environmental compliance on CPEN. This includes planning for, and guiding the accomplishment of, established goals, objectives, and planned actions to support the military and stewardship missions. Technical guidance is routinely provided by the AC/S ES regarding cultural resources protection and geographic information system (GIS) data management. The AC/S ES also provides technical environmental advice on both military and nonmilitary National Environmental Policy Act (NEPA) documents, facility planning and military construction (MILCON) projects, maintenance activities, military operations, and other proposed actions that may affect cultural resources. Information on the cultural resources on CPEN is gathered, maintained, and disseminated by the AC/S ES. The AC/S ES serves as the lead for planning and resolving natural resource compliance issues and serves as CPEN's primary point of contact with regulatory agencies responsible for enforcement of environmental regulations.

The primary users of this ICRMP at the installation level are: AC/S ES, AC/S Operations and Training, AC/S Facilities, and AC/S Installation Security.

1.2.2 Integration with External Agencies and Entities

The following organization is directly involved with cultural resources protection at CPEN and will have a copy of the ICRMP on file at their office:

- California State Historic Preservation Office(r) (SHPO)

The following organizations play an advisory role in cultural resources protection at CPEN and in specific instances will be contacted for input:

- Juaneño and Luiseño Bands of Mission Indians (current tribal listing is provided as Attachment A)
- Local, state, and national historical societies
- San Diego County Archaeological Society
- Kumeyaay Band of Mission Indians

1.3 LOCATION AND SETTING

CPEN is in San Diego County, California, and extends approximately 20 miles inland from the Pacific coast. CPEN covers approximately 17 miles along the Pacific coast from San Clemente, California, to Oceanside, California, comprising 124,642 acres. CPEN is within the Peninsular Range physiographic province. Elevation ranges from sea level to approximately 3,188 feet. CPEN is typified by narrow, flat coastal terraces dissected by northeast to southwest flowing drainages. The terraces change to hills leading to the highlands of the Santa Margarita Mountains east of CPEN.

CPEN is a USMC training facility and facilitates the intensive training required to develop combat instincts, innovation, and leadership skills. CPEN's natural resources are unique and irreplaceable to the USMC because they combine a long coastline and extensive, diverse inland ranges and maneuver areas. These provide the only setting available to the military where the full spectrum of Marine combat doctrine can be exercised: amphibious landings and all elements of the Marine Air Ground Task Force (MAGTF), including aviation and support combat arms.

CPEN consists of dispersed cantonment areas, firing ranges, maneuver areas, and impact areas, which comprise approximately 36,000 acres. The impact areas are zoned for ordnance and high explosives training. The largest concentration of development is on the southeast corner of CPEN. Most developed areas are dispersed along Vandegrift, Basilone, and San Mateo roads.

CPEN is most heavily used by and structured to support the First Marine Expeditionary Force (IMEF). IMEF is the command element for all Fleet Marine Force units: 1st Marine Division (1st MARDIV), 1st Force Service Support Group (1st FSSG), and 3rd Marine Air Wing (3rd MAW). The latter relocated to Miramar Marine Corps Air Station (MCAS) except for helicopters and fixed-wing aircraft (Marine Air Group 39), which are based at the CPEN MCAS. CPEN also supports several specialized schools, a Reserve Support Unit (RSU), and Headquarters and Support Battalion. CPEN's training ranges are used by active Marine and Navy units, reserve Marines, Army National Guard, nearby police academies, and private research firms for weapons testing. CPEN supports about 36,000 military personnel, employs 4,600 civilians, and houses more than 12,300 dependents on base.

1.4 MISSION STATEMENT

The mission statement of the USMC is to:

- Provide Fleet Marine Forces of combined arms, together with supporting air components for service with the US Fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign.
- Provide detachments and organizations for service of armored vessels of the Navy and security detachments for the protection of naval property at naval stations and bases.
- Develop, in coordination with the Army, Navy, and Air Force, the doctrines, tactics, techniques, and equipment employed by landing forces in amphibious operations. The USMC shall have the primary interest in the development of those landing force doctrines, tactics, techniques, and equipment, which are of common interest to the Army and the USMC.
- Provide, as required, Marine forces for airborne operations in accordance with the Army, Navy, and the Air Force, and in accordance with the doctrines established by the Joint Chiefs of Staff.
- Develop, in coordination with the Army, Navy, and the Air Force, the doctrines, procedures, and equipment of interest to the USMC for airborne operations which are not provided for by the Army.
- Prepare, in accordance with integrated joint mobilization plans, for the expansion of the peacetime components to meet the needs of war.
- Perform such other duties as the President may direct.

CPEN is the USMC's premier amphibious training base and its only west coast amphibious assault training center. The mission statement for CPEN is to:

- Operate the finest amphibious base possible.
- Promote the combat readiness of Marines and sailors by providing necessary facilities and services.
- Support the deployment of the Fleet Marine Force and other organizations.
- Provide support and services responsive to the needs of the Marines, sailors, retirees, and families aboard CPEN.

1.5 APPLICABLE LAWS AND REGULATIONS

This section presents the federal laws and Navy regulations that govern the treatment of cultural resources on CPEN. Table 1-1 summarizes the important laws, regulations, and standard guidelines relevant to CPEN.

1.5.1 Federal Laws and Executive Orders

The cultural resources program currently being implemented by CPEN is conducted in accordance with NEPA, Executive Order 11593, and section 106 (36 *Code of Federal Regulations* [CFR] 800) of the NHPA. NEPA states that all important cultural resources must be considered as part of the federal environmental impact planning process. The inclusion of this provision in the act reflects the national

concern for the loss of cultural resources that led to the passage of the NHPA. Although the Advisory Council on Historic Preservation (ACHP) and the section 106 and section 110 review processes were established at that time, it was not until Executive Order 11593 was implemented that federal agencies were directed to inventory federal lands for environmental compliance (King et al. 1977).

TABLE 1-1. CULTURAL RESOURCES LAWS AND REGULATIONS

FEDERAL	
Laws and Executive Orders	
1.	National Historic Preservation Act of 1966, as amended (NHPA)
2.	Antiquities Act of 1906
3.	Reservoir Salvage Act of 1960
4.	Archaeological Resources Protection Act of 1979 (ARPA)
5.	Executive Order 11593, Protection and Enhancement of the Cultural Environment
6.	American Indian Religious Freedom Act of 1978 (AIRFA)
7.	Executive Order 13007, Indian Sacred Sites
8.	Presidential Memorandum for Heads of Executive Departments and Agencies: Government to Government Relations with Native American Tribal Governments
9.	Native American Graves Protection and Repatriation Act (NAGPRA)
10.	National Environmental Policy Act of 1969 (NEPA)
11.	Historic Sites, Buildings, Objects and Antiquities Act of 1935
12.	Religious Freedom Restoration Act of 1993
13.	Archaeological and Historic Preservation Act of 1974
14.	Sikes Act and Sikes Act Improvement Amendment 1998
15.	Executive Order 13084, Consultation and Coordination with Indian Tribal Governments
16.	Executive Order 13287, Preserve America
Regulations	
1.	Curation of Federally Owned Archaeological Collections (36 CFR 79)
2.	National Historic Landmark Program (36 CFR 65)
3.	National Register of Historic Places (36 CFR 60) and Determinations of Eligibility for Inclusion in the National Register (36 CFR 63)
4.	Protection of Archaeological Resources: Uniform Regulations (43 CFR 7)
5.	Protection of Historic Properties (36 CFR 800) - Section 106 Process
6.	Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR 68)
7.	Waiver of Federal Agency Responsibility under Section 110 of the National Historic Preservation Act (36 CFR 78)
8.	Regulations Implementing the National Environmental Policy Act (40 CFR 1500–1508)
9.	Preservation of American Antiquities (43 CFR 3)
10.	Supplemental Regulations [per Archaeological Resources Protection Act] (43 CFR 7)
11.	Native American Graves Protection and Repatriation Act Implementation (43 CFR 10)

TABLE 1-1. CULTURAL RESOURCES LAWS AND REGULATIONS

FEDERAL	
Standards and Guidelines	
1.	Guidelines for Federal Agency Responsibilities, Under Section 110 of the NHPA
2.	The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation
3.	The Secretary of the Interior's Professional Qualifications Standards
4.	The Secretary of the Interior's Proposed Historic Preservation Professional Qualification Standards
5.	The Secretary of the Interior's Standards for Treatment of Historic Properties (36 CFR 68)
6.	The Secretary of the Interior's Standards for Rehabilitation (36 CFR 67)
7.	The Secretary of the Interior's Standards for Architectural and Engineering Documentation
8.	The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act
DEPARTMENT OF THE NAVY	
1.	Marine Corps Order 11000.10, Archaeological and Historic Resources Management (May 1986)
2.	Marine Corps Order P5090.2 Chapter 19 Environmental Compliance and Protection Manual
3.	Marine Corps Order P57501.1, Manual for the Marine Corps Historical Program (February 1992).
4.	Secretary of the Navy Instruction 4000.35A, Department of the Navy Cultural Resources Program
5.	Secretary of the Navy Instruction 11010.14, Department of the Navy Policy for Consultation with Federally Recognized Indian Tribes
OTHER	
1.	Department of Defense American Indian and Alaska Native Policy

The ACHP regulations implementing sections 106 and 110 of the NHPA require federal agencies to take into consideration the effect of any undertaking on properties included in or eligible for the NRHP. Agencies must provide the ACHP with a reasonable opportunity to comment prior to approval of any undertaking that may affect such properties. According to 36 CFR 800.4, agencies must identify potential historic properties and evaluate them for eligibility for listing in the NRHP. If the properties are eligible, agencies must manage them, consider the effects of actions on them, undertake and encourage their preservation, and document them if they must be altered or destroyed. In complying with these regulations, agencies are able to reduce effects on historic properties while meeting the needs of a project (King et al. 1977). A complete summary of these laws is presented in Attachment B.

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2.0 INSTALLATION CONTEXT

In order to understand the management potential of CPEN, it is important to summarize the relevant natural and cultural histories of the CPEN area. The CPEN Integrated Natural Resource Management Plan (INRMP) is an excellent source of more detailed information about the natural resources on base.

2.1 OVERVIEW OF THE NATURAL AND CULTURAL HISTORY

The following section provides information on the natural setting and cultural history of CPEN. The reader is referred to the CPEN INRMP for more detailed information on the natural resources of CPEN.

2.1.1 Physiographic and Natural Setting

The terrain of CPEN is varied and includes sandy shore, seaside cliffs, coastal plains, low hills, canyons, and mountains rising to elevations of nearly 2,700 feet. CPEN is within the Peninsular Range physiographic province and is characterized by a series of northwest-trending low hills and a narrow coastal plain consisting of a series of marine terraces. The terraces range from 0.5 to 2.5 miles wide from north to south and reach elevations of approximately 200 feet above mean sea level (amsl). The low-lying coastal hills arising inland from the coastal plain are locally termed the San Onofre Hills. The hills rise steeply to elevations averaging about 1,000 feet amsl. San Onofre Mountain, at an elevation of 1,725 feet amsl, is the highest peak in these hills. Northeast of the coastal hills, the Santa Margarita Mountains average between 1,500 and 1,700 feet in elevation with maximum elevations in this coastal range exceeding 3,000 feet at the southwestern boundary of the Cleveland National Forest.

A series of southwest-trending stream valleys cross the generally northwest-trending hills and mountains that are within the base boundary. The four largest drainage systems (north to south) on CPEN include San Mateo Creek, San Onofre Creek, Las Flores Creek, and Santa Margarita River.

- San Mateo Creek is in CPEN's northwestern portion, and extends 22 miles from the Pacific Ocean to the Santa Rosa Plateau in the Cleveland National Forest. Talega and Cristianitos creeks flow into the San Mateo Creek where the basin widens into a broad alluvial floodplain, and terminates in a freshwater marsh at the ocean. San Mateo Creek has a 137-square-mile watershed.
- San Onofre Creek wraps around the northeast side of a narrow, almost independent range of hills that closely parallel the coast. The creek is composed of four major subdivisions: Jardine Canyon, North Fork, Central Fork, and South Fork. After draining through long, steep, narrow canyons, the creek enters onto a relatively broad alluvial valley, and eventually empties into the ocean at San Onofre Beach.
- Las Flores Creek originates approximately one mile from the ocean at the confluence of Las Pulgas Canyon and Piedra de Lumbre Canyon. The 27-square-mile watershed which drains the San Onofre Hills and a southwestern flank of the Santa Margarita Mountains is located entirely on base. After draining through long, steep, narrow canyons, the creek enters a broad alluvial valley and eventually empties into the ocean at Red Beach.
- The Santa Margarita River watershed is approximately 750 square miles stretching from the Pacific Ocean to Mount Palomar, and to Thomas Mountain near Idyllwild in Riverside County. After entering CPEN at the east-central border, the river flows for about four miles where it reaches the confluence of De Luz Creek. From this reach, the river flows through a heavily

vegetated narrow canyon before it widens into a broad floodplain, and eventually discharges into a saltwater estuary.

Each stream has developed its own valley fill deposits, including an alluvial fan at the mouth near the coastline. The inland marine terraces (through which streams have eroded) slope uniformly to the southwest at inclinations of 5% or less (260 feet per mile). Mountain slopes are generally moderately steep to steep, and the majority of the mountains exceed slopes of 15% (790 feet per mile).

The developed areas of CPEN are, for the most part, isolated from one another by large areas of relatively undeveloped land, which is used for military training. The undeveloped central portion of the base is used for explosives detonation and impact areas. This design was intended to isolate these activities from civilian and military development. The developed areas are concentrated in the alluvial valleys, low-lying hills, and coastal plateaus. The mountainous topography of the base generally restricts development (such as administrative, housing, and support activities) to areas where slopes are conducive to construction.

CPEN is characterized by a Mediterranean semi-arid steppe climate, moderated by coastal proximity (Bowman 1973, Hines 1991:4). Summers are typically warm and dry with daytime temperatures rarely exceeding 90 degrees Fahrenheit (°F), and winters are mild and wet with nighttime temperatures usually above freezing. Average annual precipitation ranges from 10 to 25 inches and dry periods of 7 to 8 months are common. Approximately 75% of the annual precipitation falls between November and March. CPEN includes several climatic zones that roughly coincide with the three geographic regions present: coastal plain, coastal valley, and mountain. The coastal plain is characterized by generally mild temperatures, annually ranging from 35°F to 90°F, 30°F to 100°F in the coastal valleys, and 25°F to 90°F in the mountains. The Mediterranean climate of the region is typified by broad zones of associated vegetation, with wide transition zones (or ecotones) between vegetation communities. These modern vegetation associations have been subjected to several different classifications (e.g., Beauchamp 1986, Oberbauer 1978). The late Holocene, however, appears to have witnessed only minimal climatic change that would have affected the distribution of vegetation communities, and hence there is considerable potential to reconstruct the prehistoric distribution of plant communities (Gallegos and Kyle 1988, Johnson 1977). Such reconstruction, however, is inhibited by considerable historic and prehistoric human modification (Bean and Lawton 1976, Winterhouse 1972). Most notable is the recent destruction of coastal vegetation communities and the replacement and extinction of native perennial grasses through the introduction of non-native annual grass species.

CPEN is in the Peninsular Range physiographic province of Southern California and contains significant exposures of sedimentary and igneous geological units. These units, or formations, range in age from the Jurassic period to the present. Jurassic metamorphic (altered by heat and pressure) sediments, lower Cretaceous metavolcanics, Cretaceous granites, early Cenozoic sediments, late Tertiary volcanic, and Quaternary alluvium and terrace sequences are present.

2.1.1.1 Biology

There are 17 federally listed threatened or endangered species that live on and/or transit through CPEN. Included on this list is the southern steelhead trout, which was recently identified in the San Mateo Creek. The identified federally listed threatened and endangered species are the brown pelican (*Pelecanus occidentalis*), California least tern (*Sterna antillarum browni*), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), light-footed clapper rail (*Rallus longirostris levipes*), southwestern willow flycatcher (*Empidonax traillii extimus*), western snowy plover (*Charadrius alexandrines nivosus*), Pacific pocket mouse (*Perognathus longimembris*

pacificus), Stevens' kangaroo rat (*Dipodomys stephensi*), southern steelhead trout (*Oncorhynchus mykiss*), tidewater goby (*Eucyclogobius newberryi*), arroyo toad (*Bufo californicus*), Riverside fairy shrimp (*Streptocephalus woottoni*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), spreading navarretia (*Navarretia fossalis*), and thread-leaved brodiaea (*Brodiaea filifolia*). More detailed information about the natural resources can be found in the CPEN INRMP.

A series of major plant communities are present within CPEN including coastal sage scrub, fresh and saltwater marsh, riparian, grasslands, and chaparral (Munz 1974). Coastal sage scrub plant species in the area include buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), sugar bush (*Rhus ovata*), squaw bush (*Rhus trilobota*), and laurel sumac (*Malosma laurina*). The freshwater marsh species include cattail (*Typha*), spike-rush (*Eleocharis* spp.), and bulrush (*Scirpus* spp.), while common salt marsh plants include pickleweed (*Salicornia virginica*), salt grass (*Distichliis spicata*), and sea lavender (*Limonium californicum*). Willow (*Salix* spp.), cottonwood (*Populus fremontii*), and sycamore (*Platanus racemosa*) trees are common in the riparian habitat.

In addition to the species of special concern, a wide range of small mammals, birds, and reptiles are indigenous faunal resources of the region. Mammals occurring in the area include several species of mice and bats, desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), desert wood rat (*Neotoma lepida*), bobcat (*Felis rufus*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*). In prehistoric times, the area would have also supported a wide range of marine resources, pronghorn, and perhaps even black bear.

2.1.2 Cultural History

2.1.2.1 Prehistory

During the last 70 years, more than a dozen prehistoric cultural sequences have been presented for coastal southern California and for San Diego County in particular (Christenson 1992:Figure 13.1, Moratto 1984:Figures 4.4 and 4.17). The goals of each specific chronological construct have varied considerably, although generally the approach has been to sequentially divide prehistory based on traits observed in various archaeological assemblages (Figure 2-1). Scholars have employed differing terminological frameworks (sometimes defined and sometimes not) using terms such as culture, horizon, period, stage, and tradition (Warren et al. 1993). In some, such as the Early and Late periods of Bull (1987:36) or the Early, Middle, and Late periods of King (1981, 1990), the primary goal has been to divide the sequence into chronological periods with interpretively neutral terms. In others, such as Warren (1964, 1968), the terminological framework was simply the backbone for modeling differing ecological adaptations.

2.1.2.2 Prehistory

The basic culture historical sequence for San Diego County was established by Rogers (1929, 1945), and subsequent scholars have generally refined it by subdividing cultures, collapsing cultures, or renaming the sequence. The most enduring local culture historical terminologies were coined by Rogers (1945), with a later synthetic treatment by Wallace (1955) that integrates San Diego County with other portions of coastal southern California. In addition, True's (1966) terminology for late adaptations in the San Luis Rey River environs has continued to have widespread acceptance. Owing to a dearth of archaeological research on CPEN at that time, archaeological sites on CPEN did not play a role in the original development of the regional terminology.

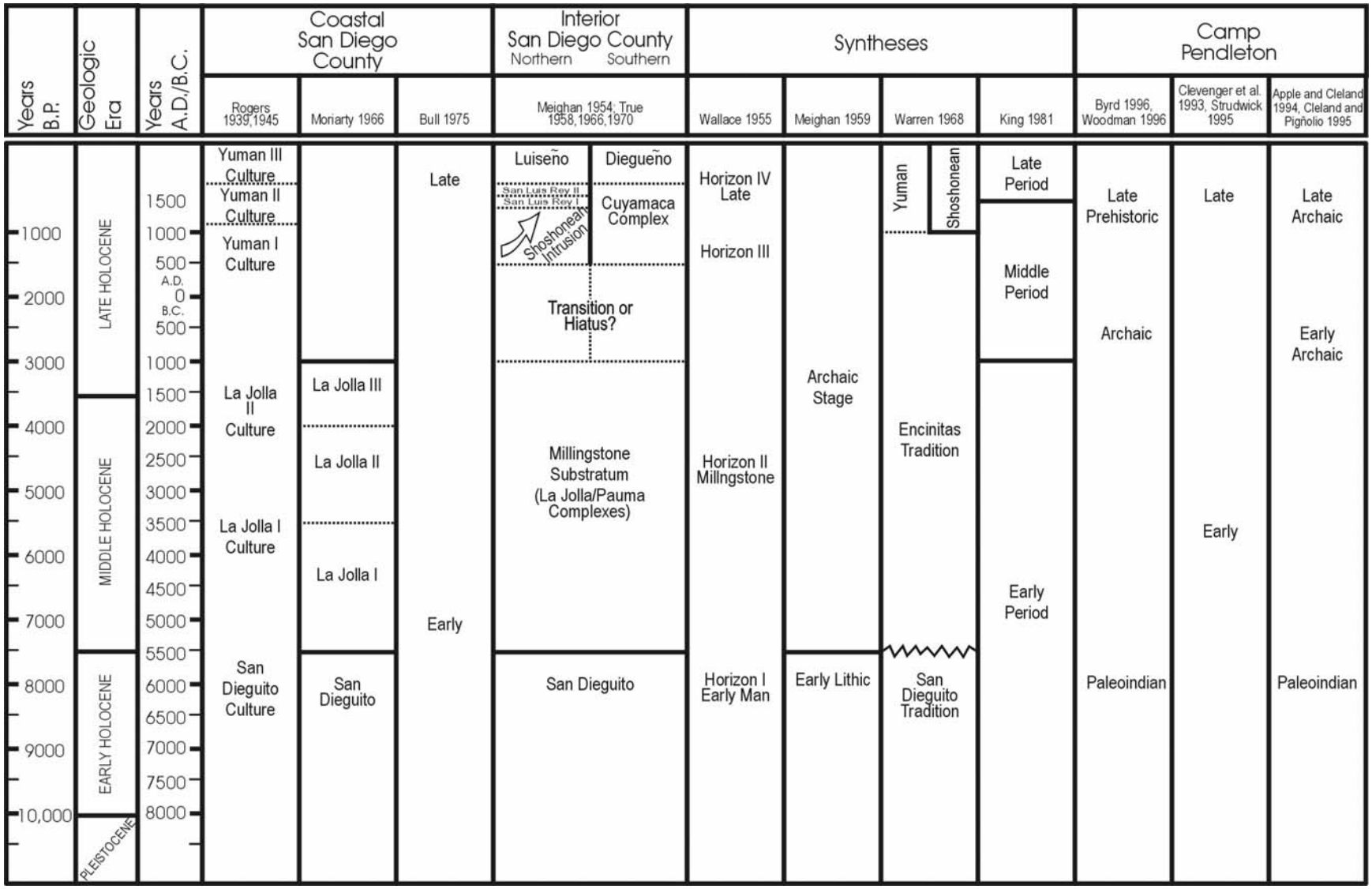

FIGURE 2-1. CAMP PENDLETON PREHISTORIC CHRONOLOGY

On CPEN, a range of terminological frameworks is applied to cultural development and prehistoric adaptations. An examination of the cultural history section in recent archaeological reports from CPEN reveals that no single chronological terminology has met with widespread acceptance nor are previous constructs strictly applied. Instead, recent reports often use hybridizations, with three terminologies being used most extensively and recurrently (see Figure 2-1). These include: Paleoindian, Archaic, and Late Prehistoric (e.g., Byrd 1996a, Woodman 1996a, b); Early and Late period (e.g., Clevenger et al. 1993, Strudwick 1995); and Paleoindian, Early Archaic, and Late Archaic (e.g., Apple and Cleland 1994, Cleland and Pigñiolo 1995). Adding further confusion to an already muddled situation, individual scholars synonymously use a number of other terms that have been introduced previously along with the just-mentioned labels. These terms include San Dieguito, La Jollan, Pauma, Encinitas, and San Luis Rey (Meighan 1954; Rogers 1939; True 1966; Warren 1964, 1968). It should be noted that different terminological sequences are generally employed by scholars working further north along the coast. Typically Wallace's (1955) or Warren's (1968) sequences are used in Orange County, while King's (1981, 1990) sequence is employed in the Santa Barbara and the Channel Island areas.

Each of the most common terminological sequences used on CPEN has drawbacks and limitations. The first terminological sequence employs two terms (Byrd 1996a, Woodman 1996) that have often been employed throughout western North America (Paleoindian and Archaic) and the Late Prehistoric term used by Wallace (1955). As such, it is a generalized chronological framework whose terms are widely used and not specific to San Diego County (Meighan 1959). In contrast, the Early/Late period terminological framework is specific to San Diego County (Bull 1987). Its simplicity is compelling, but on its own it provides little in the way of enlightenment into diachronic trends. It is also easy to confuse with King's (1990) Early/Middle/Late period chronology which is employed further northward along the coast (Moss and Erlandson 1995). The third terminological sequence (Paleoindian, Early Archaic and Late Archaic) also appears to be unique to the local region. The terms Early Archaic and Late Archaic are not commonly employed elsewhere as major temporal periods, particularly as being synonymous with the terms Archaic and Late Prehistoric of the first terminology. Drawbacks to this terminology include the discontinuance of the term Late Prehistoric, which enjoys widespread use and continued acceptance, and that early Archaic and late Archaic are often descriptive terms used to subdivide the Archaic by other scholars. Thus, the latter two terminological frameworks have the potential to confuse scholars employing other culture historical terms.

This ICRMP employs, and recommends, the use of the terms Paleoindian, Archaic, and Late Prehistoric to structure this review of the San Diego County prehistory, with particular reference to CPEN. If labels for more locally specific cultural complexes are to be used, they should be tightly defined. It is recommended that the use of geographically specific terms for cultural complexes be minimized, such as La Jolla Complex for coastal Archaic shell middens, and Pauma Complex for inland Archaic sites. Use of such geographically specific terms suggests that there is strong and definitive evidence for distinguishing these two variants within the Archaic period. To date, there is limited absolute dating and documentation that could be used to address this issue. It is recommended that this should not represent an *a priori* assumption.

This review is not an exhaustive discussion but rather a selective review that touches on the historical development of key ideas, articulates general trends, and identifies major points of disagreement. Throughout the following discussion, other terms that retain interpretive credence for scholars are referred to when appropriate. Overall, the local sequence is a broad relative chronology. The chronology was built prior to radiocarbon dating, and there has been no concentrated effort to develop a more refined sequence based on independent absolute dating criteria. Although radiocarbon dates are often obtained during excavation projects, they tend to be few in number per site. There has been no rigorous effort to synthesize these results on a regional level. As such, sites typically continue to be classified based on previously articulated criteria of associated cultural assemblages.

The antiquity of human occupation in the New World has been the subject of considerable debate over the last few decades, and a number of sites have been suggested to represent very early occupation of the Americas (Owen 1984, Taylor 1991). The most widely accepted model is that humans first entered the western hemisphere between 15,000 years before present (BP) and 12,000 BP. No sites are reliably dated prior to 15,000 BP (e.g., Haynes 1969, Jelinek 1992, Meltzer 1993). This state of knowledge stands in stark contrast to Australia, the other continent that witnessed colonization late in human prehistory. Thirty years of less intensive research in Australia have yielded an extensive body of evidence for occupation dating back to pre-40,000 BP. Recently, however, the presence of several sites dated to the terminal Pleistocene in South America and the indirect seafaring evidence for Pleistocene boat travel to Australia and Japan have fueled renewed interest in the potential for a pre-15,000 BP human entry into the Americas (Meltzer 1993). It has also prompted researchers to posit alternative models for how populations entered the New World and spread outward. One aspect of this model has been revived discussion of a circum-Pacific coastal spread of early inhabitants (Erlandson 1994, Erlandson and Colten 1991, Jones 1991, Moss and Erlandson 1995)

Carter (1949, 1957, and 1980) was the most strident proponent of Pleistocene occupation of coastal southern California. Based on geological context and the nature of artifact assemblages, he asserted that a series of sites in San Diego County were situated on or within Pleistocene terraces. When proposed, this relative dating argument was generally not accepted by geologists or archaeologists (Moratto 1984). These claims were bolstered in the 1970s when an experimental absolute dating technique, amino acid racemization, produced pre-20,000 BP dates on human remains from sites in Del Mar, La Jolla, and elsewhere in coastal southern California (Bada et al. 1974, Rogers 1974). Subsequent accelerator mass spectrometry dating of these human remains revealed that all of them were Holocene in age, and typically middle or late Holocene (Bada et al. 1984, Taylor 1983, Taylor et al. 1985). This has not, however, dampened the enthusiasm of very early occupation advocates, particularly those who consider Calico Hills in the Mojave Desert to be a genuine archaeological site (Budinger 1983).

The possibility of human occupation in coastal southern California during the Pleistocene has continued to intrigue investigators (Erlandson 1994, Erlandson and Colten 1991, Jones 1991). For this area, no sites are dated prior to 10,000 BP (Lightfoot 1993, Moss and Erlandson 1995). This situation should not preclude the possibility that evidence of Pleistocene occupation within the coastal region is still preserved despite extensive shoreline erosion and landform alteration. However, strong evidence that objects recovered from possible early sites are manufactured by humans and that these objects date to the Pleistocene, or are directly associated with such Pleistocene deposits, is currently lacking.

The Paleoindian period begins with Clovis occupation, a widespread phenomena in North America. Noted for its distinctive tool kit characterized by fluted points, Clovis occupation dates to the end of the Pleistocene, from 11,200 BP to 10,600 BP (Meltzer 1993). The Paleoindian period in San Diego County is considered to date to the terminal Pleistocene and the early Holocene, from before 10,000 BP to 8500/7500 BP (Moratto 1984, Warren et al. 1993). Although no Clovis sites are documented in the region, occasional isolated fluted points have been recovered. Hence there exists the potential for the discovery of a terminal Pleistocene occupation.

Much has been written about Paleoindian assemblages in the southern California region, and a variety of terms proposed. Rogers, the first to temporally order the archaeological assemblages of the region, introduced and then discarded the terms scraper-makers, Malpais, and Playa to label early lithic industries of the region (see Warren 1967 for a comprehensive review). Rogers (1939, 1945) coined the term San Dieguito to refer to the earliest artifact assemblages in San Diego County, and for many it remains a viable Paleoindian cultural complex. Rogers' (1929) use of the term San Dieguito developed out of pioneering survey work in which he distinguished a suite of lithic scatters situated on the San

Dieguito Plateau of San Diego County. These sites were initially termed the scraper-makers and were considered to postdate shell-midden sites situated closer to the coast. Key attributes of these scraper-maker sites included patinated scrapers (and the term "San Dieguito" was used to refer to scraper planes), knives, rare crescentic stones (termed eccentrics today), and occasional manos and metates. These sites, situated on terraces and ridgetops, lacked subsurface material and middens, and were interpreted as evidence of a hunting-focused culture.

The discovery and subsequent excavation of the C. W. Harris site in west-central San Diego County provided the first stratigraphic evidence to place the San Dieguito in the temporal sequence (Rogers 1938). This buried, multiphase site was exposed in an alluvial cut along the San Dieguito River, and trench excavations revealed San Dieguito and Late Prehistoric occupation episodes. Based on his more extensive research in the southern California deserts, Rogers (1938, 1939) considered the site to be a San Dieguito II or III occupation: in other words, a late Paleoindian settlement. The artifact assemblage was characterized by flaked lithic tools such as scrapers and scraper planes along with large bifaces and projectile points.

Additional fieldwork was carried out at this San Dieguito-type site from 1958 to 1967 (Warren 1966, 1967; Warren and True 1961). This research and the publication of Rogers' writings on the initial fieldwork provided the stratigraphic and analytical basis for defining the San Dieguito as a Paleoindian hunting culture. Notable aspects of the studies at the Harris site were the absence of ground stone artifacts, the stratigraphic position of the deposit below a La Jolla occupation deposit, and radiocarbon dates placing occupation between 9000 BP and 8500/7600 BP (Warren 1967). The absence of ground stone was considered an important distinction between San Dieguito and subsequent Archaic occupations (Warren 1967).

During the last 15 years, the relationship between San Dieguito (Paleoindian) and later La Jolla (Archaic) sites has been the subject of considerable debate (Bull 1983, 1987; Gallegos et al. 1987; Moriarty 1969; Warren 1985, 1987; Warren et al. 1993). The key issues concern whether San Dieguito sites are chronologically earlier, whether San Dieguito sites lack ground stone artifacts, and whether subsequent Archaic sites have a strong bifacial tool component. A major alternative interpretation considers San Dieguito and La Jollan sites as functional variants of a single adaptive system with San Dieguito sites representing specialized quarrying or hunting locales (Bull 1987, Gallegos 1987). Such an interpretation fits with recent Paleo-coastal models that consider the earliest occupation of the western coast (pre-8500 BP) to be focused not on big game hunting but rather to represent a more generalized hunting and gathering adaptation (Erlandson and Colten 1991, Moratto 1984, Moss and Erlandson 1995). One of the major difficulties in resolving this issue is the dearth of sites with early Holocene subsurface assemblages (True and Bouey 1990, Warren et al. 1993). Paleoindian sites or isolated surface finds have not yet been documented on CPEN.

The Archaic period is considered to have begun at approximately 8500 BP (possibly as early as 9000 BP) and lasted until 1300 BP to 800 BP (Moratto 1984, Rogers 1966, Warren et al. 1993). A major distinction has been made between shell midden Archaic sites (near the coast) and non-shell midden Archaic sites further inland. Coastal Archaic sites (often termed the La Jolla Complex) are characterized by shell middens, flaked cobble tools, basin metates, manos, discoidals, and flexed burials, while inland sites in northern San Diego County are often termed the Pauma Complex. Alternative terminology includes Wallace's (1955) Milling Stone horizon and Warren's (1968) Encinitas tradition. This time period was considered to have differed from the prior San Dieguito adaptation by being more focused on gathering activities that emphasized marine mollusks, fish, and plant resources.

Rogers (1945:170–171) considered the Paleoindian (San Dieguito) and Archaic (La Jolla) occupations to be representative of different populations, a view also shared by Warren (1968). However, later

research considered the potential for transitional coastal sites and cultural continuity (Kaldenberg 1982, Moriarty 1967). As discussed for the Paleoindian period, the extreme view considers the early Archaic and Paleoindian sites to be contemporaneous expressions of a single settlement system (Bull 1987, Gallegos 1987).

Initially, Rogers (1929) noted that archaeological sites of the shell-midden people were concentrated along major drainages and lagoons, extending up to four miles inland. The largest areal spread of sites away from the major drainages occurred between Escondido and Agua Hedionda creeks. Shell midden sites were characterized by massive quantities of shellfish, along with manos and metates, hammerstones, and split cobbles. Rogers (1945:171) later coined the term La Jolla culture to refer to these early shell midden sites, and distinguished two phases (La Jolla I and II) within a continuous occupation based on stratigraphic observations. The early phase was characterized by basin metates, unshaped manos, cobble choppers, primary flakes, and inhumations without grave goods. The later phase included greater frequencies of ground stone and flaked artifacts, increased manufacturing sophistication, and inhumations interred in cemetery areas, with grave goods such as shell beads, stone digging-weights, and inverted metates.

Subsequent excavations at a series of coastal Archaic shell middens provided the data and analytical basis to more accurately characterize the associated assemblages (Crabtree et al. 1963, Moriarty et al. 1959, Shumway et al. 1961, Warren et al. 1961). A series of Archaic coastal shell midden sites produced radiocarbon dates from 9000 BP to 3000 BP. As a result of these studies, several proposals were offered regarding temporal change during the coastal Archaic. These interpretations either added or detracted additional subphases and modified the temporal distribution of various archaeological traits (Davis 1976, Harding 1951, Moriarty 1966, Warren 1964).

The reconstruction of San Diego County coastal adaptations has been, at its essence, the argument put forward succinctly in Warrens' 1964 dissertation. In particular, the prehistory of one area, Batiquitos Lagoon at the base of San Marcos Creek in the central portion of the county, has essentially served as the type locality for the littoral prehistory of San Diego County (Gallegos 1985, 1987; Warren 1964; Warren and Pavesic 1963; Warren et al. 1961). Although refinements have been made by Warren and other scholars based primarily on new excavations (Christensen 1992; Gallegos 1987, 1992; Gallegos and Kyle 1988; Warren 1968; Warren et al. 1993), the broad perception of coastal adaptations for the last 7,000 years is largely unchanged.

The normative view of the coastal Archaic is that exploitation of the San Diego County littoral zone began early in the Holocene and was clustered around resource rich bays and estuaries (Warren 1964, 1968). Shellfish have been interpreted as a dietary staple, although plant resources (both nuts and grasses) were also an important dietary component. Major changes in human adaptations are considered to have occurred when lagoon silting became extensive enough to cause a decline in associated shellfish populations. This occurred between 4000 BP and 3000 BP at Batiquitos Lagoon and possibly later at other, larger lagoons. The decline in littoral shellfish resources, Torrey pine nuts, and drinking water drastically affected human populations and resulted in a major depopulation of the coastal zone. Populations shifted inland to a river valley orientation and intensified exploitation of terrestrial small game and plant resources (possibly including acorns) (originally proposed by Rogers 1929:467). The coast was either abandoned or subject to only seasonal, often short-term occupation. The principal, well-recognized exception to this abandonment was the southern third of the coastline associated with Mission and San Diego bays where occupation continued as before, unaffected by lagoon silting (see Christenson 1992). The San Diego County coastline north of Mission Bay, including the CPEN area, witnessed a major population decline due to a lack of littoral resources. This new pattern of low-level exploitation of the coast (at best seasonal occupation) continued until historic contact.

A number of possible exceptions have been noted by Warren and by others, most notably Gallegos (1992). Warren (1964) pointed out that Santa Margarita River and possibly San Dieguito River may have had sufficient water to enable large populations to persist for a longer period. Gallegos (1992) stated that occupation persisted throughout the prehistoric sequence at the Peñasquitos Lagoon/Sorrento Valley area. However, the northern third of San Diego County is rarely explicitly addressed owing to the lack of research on CPEN.

New research on CPEN, however, has revealed continuity in Archaic occupation of the coastal area from 8000 BP into the Late Prehistoric period. These results conflict with expectations of the prevailing reconstruction for the San Diego County area (Byrd 1996a, 1997; Byrd et al.1995; Reddy et al. 1996). In this area, the post-4000 BP time period is well represented by coastal sites. Many of these settlements are large with moderate to thick middens that were occupied for multiple seasons, and shellfish persisted as a viable economic strategy. These results reveal that a varied and complex set of factors were in play, and that Archaic adaptations were both flexible and dynamic.

Currently, inland Archaic adaptations are not as well understood. Initially, a series of 25 sites predating the Late Prehistoric period in inland northern San Diego County were termed the Pauma Complex by True (1958). These sites were set on hills overlooking drainages and were associated with pre-late Holocene sediments. As a complex, they were considered distinct from coastal Archaic sites given their typically shallow subsurface components and the lack of shellfish and bone. The economy at these sites was interpreted as oriented toward seed-gathering, given the predominance of grinding stones in the tool assemblages. True (1958) initially hypothesized that they may have similarities with San Dieguito (Paleoindian) sites based on the presence of bifaces, crescentics, and projectile points.

Subsequent research by True and his associates further refined the nature of the Pauma Complex. An important new interpretation was that the Pauma Complex was not part of the San Dieguito and Paleoindian age, but rather may have some mixing of earlier Paleoindian material culture (True 1980). Many similarities with coastal Archaic adaptations were recognized, but milling stones were more frequent in the Pauma Complex sites, while scraping and planning tools and hammer/choppers were more common on the coast (True and Beemer 1982). Excavations and radiocarbon dating at the Pankey site in the Pauma Valley yielded a Pauma occupation level with an inverted basin metate above a burial and low frequencies of shellfish remains (True and Pankey 1985). As a result of this fieldwork, it was hypothesized that the Pauma Complex represents an inland, possibly seasonal, expression of the coastal Archaic (La Jolla).

The onset of the Late Prehistoric period in San Diego County is generally considered to have occurred between 1300 BP and 800 BP (Moratto 1984, Rogers 1945, Warren et al. 1993). The timing of this period may vary within the region (potentially earlier in the east and later in the west) and according to the criteria applied. In general, this period is paradigmatically linked with the ethnohistoric record of local Native Americans. Specifically, applications of direct historical analogy to this time period assume a considerable period of stability during the Late Prehistoric period for populations, linguistic groups, and their territorial extent as documented by Europeans from Spanish contact through early twentieth century ethnohistoric accounts.

Given that two different linguistic groups, the Yuman language group speaking Diegueño and the Shoshonean language group speaking Luiseño/Juaneño, inhabited the southern and northern portions respectively of San Diego County during the ethnohistoric period, it is not surprising that two Late Prehistoric period complexes are distinguished that have the same broad boundaries. In general, the Late Prehistoric period is characterized by the appearance of small, pressure-flaked projectile points indicative of bow and arrow technology, the appearance of ceramics, the replacement of flexed

inhumations with cremations, and an emphasis on inland plant food collection and processing (especially of acorns) (Meighan 1954; Rogers 1945; Warren 1964, 1968).

The explanations for the origin of the Late Prehistoric period are problematic and subject to differing interpretations (Meighan 1954, Moriarty 1966, Rogers 1945, True 1966). Kroeber (1925:578) speculated that Shoshonean language speakers migrated from the deserts to the southern coast of California at least 1,500 years ago. Some subsequent investigators have embraced this hypothesis and correlated it with the origins of the Late Prehistoric period (Meighan 1954, Warren 1968).

Rogers' (1929) early views on the Late Prehistoric/Contact period discussed the Luiseño and Diegueño together under the rubric of the Mission Indians, and distinguished them from earlier shell-midden and scraper-maker cultures. Mission Indian sites were typically situated on the east side and tops of rock hills overlooking water sources, under or near large boulders. Open-air sites were rare. Material culture included cremations, pottery, projectile points, bedrock mortars, metates, and portable ground stone. The economy was acorn-focused and often situated near live-oak stands.

When building a three-phase model of Yuman prehistory (which focused on the southern half of San Diego County), Rogers (1945) argued for continuity in occupation from the Archaic to the Late Prehistoric period. On the coast, three phases of shell middens were noted extending from La Jolla I through La Jolla II to Yuman. He argued that the Diegueño culture of 500 years ago was the result of a series of events. This included earlier migration of Yuman populations from the coast to the Colorado River (perhaps as the result of an influx of Shoshone populations in northern San Diego County), adaptation to this new riverine setting and adopting traits from adjacent populations in the Southwest, and ultimately movement back to the coast during the Yuman III phase, thereby introducing the material culture that defines the local Late Prehistoric period. Thus, he argued for both migration and cultural continuity. Later scholars have either supported the cultural continuity interpretation arguing for the addition of new traits; the proposed replacement of populations interpretation; or suggested that both were at play (Moriarty 1966; True 1966, 1970; Warren 1968).

Subsequent scholars focused on refining perceptions of Late Prehistoric material culture and adaptations. Meighan (1954), after excavating one aceramic site in the northern inland portion of the county, defined the San Luis Rey Complex. He asserted that: "Historically the area was occupied by the Luiseño and there is every reason to believe that the site itself represents a prehistoric village occupied by ancestors of the modern Luiseño. The village was abandoned in pre-contact times and living Luiseño informants have no memory of it" (Meighan 1954:216). Thus, Meighan (1954) distinguished a pre-pottery San Luis Rey I phase as immediately pre-contact (550 BP–200 BP), and a San Luis Rey II phase as a contact period with ceramics (200 BP–100 BP).

True continued to focus on interpreting inland adaptations, refining the San Luis Rey Complex of the northern portion of the county and defining the Cuyamaca Complex in the south (True 1966, 1970; True et al. 1974, 1991). The Cuyamaca Complex was distinguished from the San Luis Rey Complex based on higher frequencies of side-notched points, flaked-stone tools, ceramics, milling stone implements, a wider range of ceramic vessel forms, a steatite industry, and cremations placed in urns.

The majority of True's research has focused on the inland portions of the San Luis Rey River system. As a result, a revised, long chronology has emerged for the San Luis Rey Complex. The San Luis Rey II period is now considered to date primarily to the prehistoric era, the San Luis Rey I period extends considerably earlier than previously thought (beginning somewhere between 1000 BP–2000 BP), and a prior intermediate or generalized San Luis Rey period is hypothesized (True et al. 1974:Figure 1; True and Waugh 1982:Figure 2; True and Waugh 1983). A small number of radiocarbon dates from two sites, however, detracts from the viability of this model. True and Waugh (1982) also formulated a diachronic

San Luis Rey settlement model that begins with a foraging pattern, characterized by small camps and several residential shifts each year during the San Luis Rey I period. During the San Luis Rey II period, settlement configuration became more territorial, strongly correlated with particular drainage systems, and shifted to a classic collector strategy. This new configuration was bipolar with permanent winter villages/camps in the western foothills and associated permanent summer camps in the mountains. The highland settlements, often associated with milling stations at bedrock outcrops, were seasonally occupied to process acorns and other nuts/seeds. True (1993:17) has also hypothesized that the lower portions of the San Luis Rey River drainage had sedentary villages with limited use of marine resources.

Recent research on CPEN has documented archaeological evidence of a wide range of Late Prehistoric settlements. Along the coast, a suite of sites is now dated to the Late Prehistoric period (Byrd 1996a, 1997; Byrd et al. 1995; Reddy et al. 1996). These sites were occupied for extended seasons, reveal intensive use of local littoral resources, and have continuity with well-dated late Archaic adaptations in this area. In addition, upland Late Prehistoric settlements on CPEN have been investigated. These sites are often clustered around boulder outcrops to facilitate bedrock milling and reveal a complex set of local adaptations that can be considered part of the San Luis Rey Complex (Reddy 1997b). As a whole, the Late Prehistoric period on CPEN reveals continuity with contemporaneous settlement northward in Orange County and continued dependence upon coastal resources, particularly shellfish (Moratto 1984).

CPEN straddles the boundary between the Luiseño and Juaneño cultural groups, according to Kroeber's study (1925:636). Both of these groups are Shoshonean speaking populations that have inhabited what are now northern San Diego, southern Orange, and southeastern Riverside counties through the ethnohistoric period into the twenty-first century. They are linguistically and culturally related to the Gabrieliño and the Cahuilla, and represent the descendants of regional Late Prehistoric populations. They are generally considered to have migrated into the area from the western Great Basin, possibly displacing the prehistoric ancestors of the Yuman-speaking Kumeyaay (Ipai-Tipai) that lived directly to the south during ethnohistoric times.

Comparatively little has been recorded about the Juaneño. The name Juaneño derives from association with the Mission San Juan Capistrano, founded in 1776. The territory ascribed to these people by Kroeber (1925:636) extended from Aliso Creek on the north to the area between San Onofre and Las Pulgas drainages on the south, with the Pacific Ocean forming the western boundary and the crest of the Santa Ana Mountains forming the eastern boundary. Their neighbors to the north were the Gabrieliño, and the Luiseño were on the northeast, east, and south. There is some controversy over the nature of the Juaneño as a group. Kroeber (1925:636) recognizes Juaneño as a dialect of Luiseño, but treats the populations as separate peoples. Cameron (1987:318) supports this interpretation, based on archaeological evidence. Bean and Shipek (1978:550) and White (1963:91) treat the Juaneño as part of the Luiseño on the basis of cultural and linguistic similarities. For the purposes of this ethnohistoric discussion, the Juaneño are subsumed under the Luiseño.

The Luiseños were given their name by Franciscan friars who named the San Luis Rey River and established the Mission San Luis Rey in the heart of Luiseño territory. The Luiseño territory encompassed an area from roughly Agua Hedionda on the coast, east to Lake Henshaw, north into Riverside County, and west through San Juan Capistrano to the coast (Bean and Shipek 1978). The Luiseño shared boundaries with the Gabrieliño and Serrano to the west and northwest, the Cahuilla from the deserts to the east, the Cupeño to the southeast, and the Kumeyaay to the south (Figure 2-2). All but the Kumeyaay (Ipai or Northern Diegueño) were linguistically similar to the Luiseño, belonging to the Takic subfamily of Uto-Aztecan (Bean and Shipek 1978). The Yuman Ipai had a different language and cultural background, but shared certain aspects of social structure and technology, and some Kumeyaay incorporated Luiseño religious practices into their cosmology.

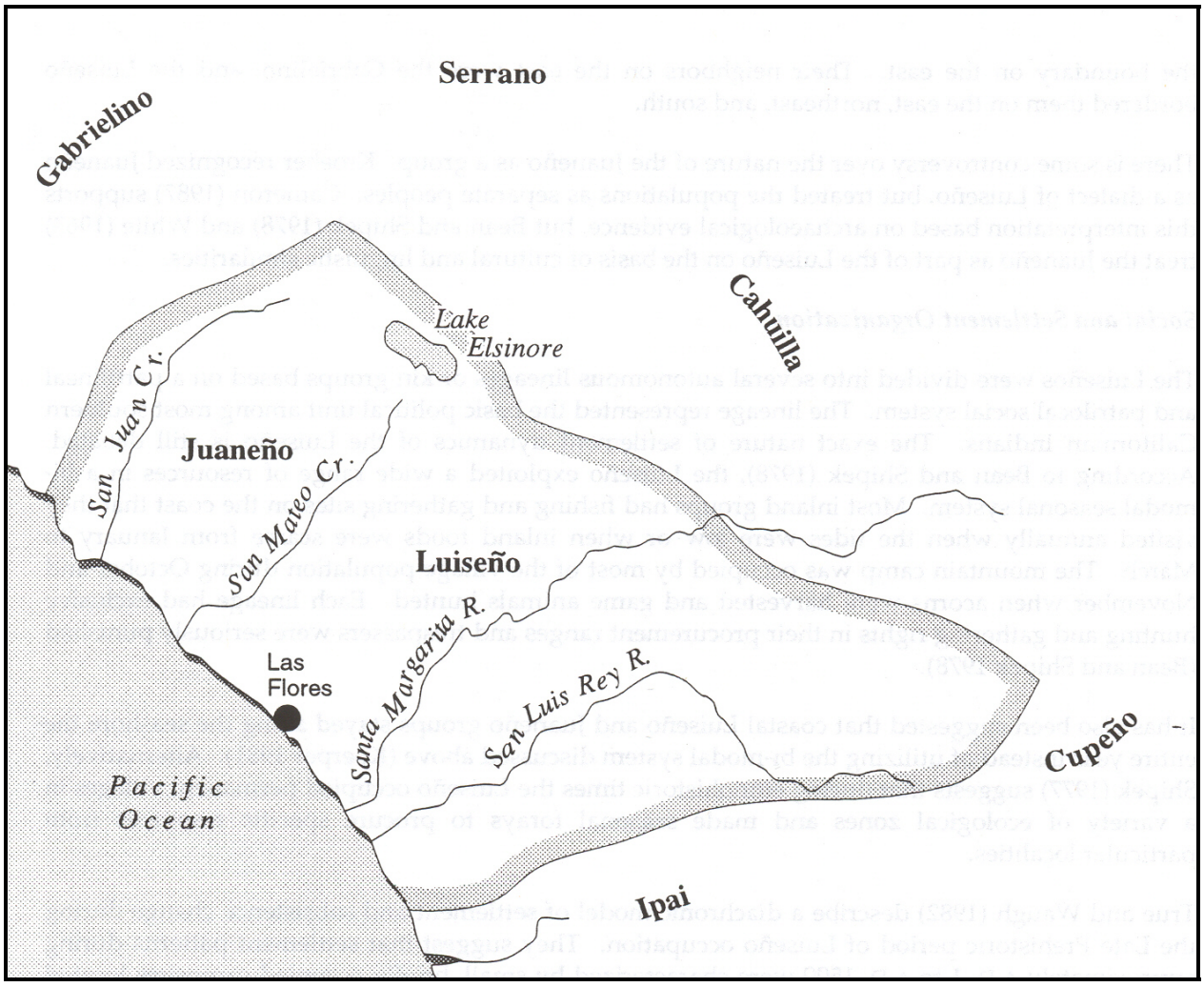

FIGURE 2-2. ETHNOHISTORIC TRIBAL TERRITORIES IN THE CAMP PENDLETON VICINITY

The Luiseño were divided into several autonomous lineages or kin groups based on a patrilineal and patrilocal social system. The lineage represented the basic political unit among most Southern California Indians. According to ethnohistoric data collected by Bean and Shipek (1978), each Luiseño lineage possessed two permanent base camps or villages, one in the San Luis Rey Valley and another in the mountain region. A wide range of resources were used by the Luiseño in a bi-modal seasonal system. Each lineage had exclusive hunting and gathering rights in their procurement ranges, and violation by trespass was seriously punished (Bean and Shipek 1978).

Acorns, gathered in upland areas, were the most important food source for the Luiseño. Seeds from grasses, manzanita, sage, sunflowers, lemonade berry, chia, and other plants were also used, along with various wild greens and fruits. Deer, antelope, small game, birds, fish, and marine shellfish were also intensively used. Rigid sexual division of labor did not exist, although generally women collected plant resources and the men hunted (Bean and Shipek 1978). Houses were dispersed throughout villages. Lowland village houses were conical structures covered with tule bundles, with floors set below the ground surface and a central hearth. Other structures included sweathouses, ceremonial enclosures, ramadas, and acorn granaries. Domestic implements included wooden utensils, baskets, ceramic

cooking and storage vessels, and stone milling equipment. Hunting implements included bow and arrow, curved throwing sticks, nets, and snares. Nets and hooks made of shell and bone were used for fishing.

Religious leaders and elaborate ceremonies characterized Luiseño religion (White 1963). Ritual and ceremonial specialists maintained ceremonial knowledge in secrecy and passed on the knowledge to only one heir. The decimation of the population after European contact undoubtedly caused the loss of some religious specialists, resulting in abbreviated versions of ceremonies (Winterrowd and Shipek 1986). Surviving ceremonies include initiation for cult candidates, installation of religious chiefs, and funerals (Bean and Shipek 1978).

The Kumeyaay (including, for these purposes, the Ipai and Tipai dialects) inhabited the region directly south of the Luiseño in southern San Diego County, west and central Imperial County, and northern Baja California (Almstedt 1982, Gifford 1931, Hedges 1975, Luomala 1978, Shipek 1982, Spier 1923). Luomala (1978) defines the territory similar to the above at latitude 3315' in the north to about 3130' south latitude, while Almstedt (1982:9) cites a more traditional view that places the northern boundary around Agua Hedionda lagoon at Carlsbad. Unlike the Luiseño, the Kumeyaay occupied a much larger and more diverse environment including marine, foothill, mountain, and desert resource zones.

The first encounter by Spanish explorers with Native Americans was when Cabrillo sailed into San Diego Bay (San Miguel) in September 1542 (Wallace 1963, Pourade 1960). The interaction was minimal and involved enforced and voluntary interviews with a few individuals who revealed that similar people, i.e., Spaniards (bearded, mounted, and armed), were encountered somewhere in the interior. The first intensive encounter of Spanish explorers and coastal villages of Native Americans was in 1769 with the establishment of Mission San Diego de Alcalá. The Mission of San Juan Capistrano, which had jurisdiction over the study area, was subsequently established in 1776, and San Luis Rey de Francia was founded in 1798. The missions “recruited” Native Americans to use as laborers and converted them to Catholicism.

At the time of contact, the Luiseño population may have ranged from 5,000 to as many as 10,000 individuals. Kumeyaay population was at the same level or somewhat higher. Missionization, along with the introduction of European diseases, greatly reduced native populations. Most villagers maintained many of their aboriginal customs and simply adopted the agricultural and animal husbandry practices learned from Spaniards.

By the early 1820s, California came under Mexico’s rule, and in 1834 the missions were secularized. This resulted in political imbalance and Native American uprisings against the Mexican rancheros. Many Kumeyaay and Luiseño people left the missions and ranchos and returned to their original village settlements (Cuero 1970). When California became a sovereign state in 1850, the Luiseño and Kumeyaay were heavily recruited as laborers and experienced even harsher treatment. Conflicts between Native Americans and encroaching European Americans finally led to the establishment of reservations for some villages, such as Pala and Sequan. Other Mission groups were displaced from their homes, moving to nearby towns or ranches. The reservation system interrupted the social organization and settlement patterns, yet many aspects of the original culture still persist today. Certain rituals and religious practices are maintained and traditional games, songs, and dances continue.

2.1.2.3 History

Almost 230 years have passed since the first words were written about the CPEN area by members of the Portolá expedition, who marched from San Diego to Monterey securing Alta California for the Spanish empire. Since that time, this geographically diverse region of coastal plains, river valleys, and

mountains has been the setting for a series of major events related to Native American, Spanish, Mexican, and European American populations. From Spanish mission rancho and *estáncia*, to the Mexican and then American rancho, and finally to USMC base, each has resulted in human activities that left unmistakable traces on the cultural landscape of CPEN (Table 2-1). Agricultural and ranching pursuits have been foremost in the activities of the last two centuries, but the CPEN area has also been an important coastal transportation corridor and one of the most important military bases in the western United States. CPEN has been the stage of some of the most dramatic events and historical processes to occur in Southern California, often typifying state and region-wide patterns. These have included:

- early Spanish exploration
- the efforts of Spanish colonial mission institutions to extend their control over the Luiseño and Juaneño Indian inhabitants and develop an economic base for the mission
- the first ranching and farming enterprises in the region
- the efforts of the local Luiseño and Juaneño Indians to cope with the Spanish intrusion through accommodation, resistance, and persistence
- the transformation of a mission property into the largest Mexican period rancho in California
- the scene of the struggle for political and military control during the final days of Mexico's hold on California
- the object of a legal battle for control of rancho lands following the American conquest of California, exemplifying the decline of the Californio culture
- the continuation and changes of California's ranching tradition into the twentieth century
- the development of transportation corridors along the California coast
- the establishment and operation of one of the most important military bases in the western United States

TABLE 2-1. CAMP PENDLETON HISTORICAL CHRONOLOGY

Period	Dates (AD)	Major Events
Spanish	1769–1821	July 20–22, 1769: Portolá Expedition Nov. 1, 1776: Mission San Juan Capistrano founded Sept. 1, 1779: First baptisms recorded from Huisme at Mission San Juan Capistrano June 13, 1798: Mission San Luis Rey founded
Mexican	1821–1848	1823: Las Flores Estancia founded Aug. 17, 1833: Mexican Secularization Act c. 1833–1834: Las Flores Pueblo granted April 21–23, 1838: "Battle" of Las Flores May 10, 1841: Rancho Santa Margarita granted Oct. 8, 1844: Las Flores Pueblo purchased by Pico
American	1848–1942	Jan. 3, 1848: Kearny's Army of the West visit Feb. 25, 1864: Juan Forster receives rancho title 1872–1873: Pico vs. Foster claims case Feb. 22 1882: Forster family sells rancho to James Flood and Richard O'Neill 1941: Rancho divided into Santa Margarita (Flood) and San Onofre/San Mateo (O'Neill)
USMC	1942–Present	1942: Camp Pendleton established

These events involved some of the most colorful and important characters in California history. Several individuals of significance to CPEN's history are briefly identified in the following discussion. The first were the Spanish explorer Don Gaspar Portolá and his second in command, Pedro Fages. With them came the "Padres," Father Juan Crespi and Francisco Palóu, who chronicled his journey through the region. Also with them was Father Antonio Peyri who founded Mission San Luis Rey and extended its influence over the CPEN region.

The most significant figures of the Mexican period were Pio Pico and his brother, Andrés, who acquired and built up Rancho Santa Margarita y Las Flores. Pio Pico became the last Mexican governor of Alta California while Andrés gained notoriety as the commander of the California forces who vanquished the Americans at the Battle of San Pasqual. (Another important figure was William Hartnell, an English merchant and Californio by marriage, who exposed the Pico's treatment of the Luiseño at the rancho.) Anglo brother-in-law to Pio Pico, Juan Forster, who typical of Anglo/Yankee immigrants married into an influential Californio family, acquired Rancho Santa Margarita y Las Flores from his bankrupt father-in-law after he lost his fortune on bad management and gambling.

Some of the more fascinating characters of the Mexican period were the ousted Mexican governor of Alta California, Juan Bautista Alvarado, and his military commander, José Castro, who took control of California in a coup and resisted the appointment of a new governor. This resistance resulted in a military confrontation at Las Flores.

The American-period owners of Rancho Santa Margarita y Las Flores were James Flood and Richard O'Neill, who bought the ranch after Forster's death and made considerable improvements. Flood and O'Neill tried to achieve the economic success that eluded Juan Forster and his sons Marcus and Juan Jr. Richard O'Neill, a forty-niner, came to San Francisco from Ireland to open a butcher shop, which was a popular way to get rich during the gold rush. He left the wholesale butcher business in 1876 to become a cattle rancher. Down the street from O'Neill was a saloon owned in part by James Flood who made a fortune on the Comstock Lode and established the Bank of Nevada, later to merge with Wells Fargo Bank. Flood became a partner with O'Neill in the purchase of the rancho.

When the USMC acquired the ranch from the O'Neill family in 1941, several distinctive personalities arrived on the scene. The World War II-era commanders Major General J. C. Fegan, Major General C. F. B. Price, and Lieutenant General H. M. Smith brought their own tough personal styles to the task of training and mobilizing some of the most highly decorated units of the Pacific theater. Among the most notable Marines to train at Camp Pendleton were Gunnery Sgt. John Basilone, who at 27 became the only enlisted Marine to receive the Congressional Medal of Honor for his actions at Guadalcanal. Most familiar were Sgt. Michael Strank, Cpl. Harlow Block, PFCs Franklin Sousley, Rene Cagnon, and Hamilton Hayes, and 2nd Class pharmacists' mate John Bradley who were in the Pulitzer Prize-winning photograph of the American flag-raising after the bloody battle for Iwo Jima. (The original flag raisers were actually Platoon Sgt. Ernest I. Thomas, Sgt. Henry Hansen, Cpl. Charles W. Lindberg, PFC James Michaels, Lieutenant Harold Schrier, and photographer Sgt. Louis Lowery.)

There are countless unidentified individuals whose actions directly shaped the cultural landscape of CPEN, for example, the Luiseño who adapted to the mission rancho and estancia systems and who added vaquero and farmer traditions to their hunting and gathering heritage. They continued on as employees of the Mexican, and then American rancho. There were also the Latino and Anglo ranch hands of the American period as well as Sing Yung, the Chinese cook who worked for the O'Neills. Since CPEN was established, there have been a large number of civilian employees and hundreds of thousands of Marines who have worked and trained on the base.

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3.0 STATUS OF KNOWLEDGE

It is necessary to identify and evaluate sensitive and significant cultural resources to integrate legal and stewardship requirements with military requirements and maintain defense preparedness. The following section summarizes the work that has been completed at CPEN.

3.1 SUMMARY OF COMPLETED INVENTORIES AND MANAGEMENT PLANS

CPEN has completed inventories, evaluations, and management plans in each of the following areas: archaeological sites, historic buildings and structures, historic landscapes, monuments and memorials, and documents. A historic building inventory and evaluation was completed for all of the buildings on CPEN. Evaluation of the archaeological resources is ongoing. Specific landscape management plans are being developed. A library of cultural resource documents is maintained by the CRM.

3.1.1 General Inventories and Plans

A number of general studies and guidelines have been produced for CPEN. The following is a list of the primary documents:

- The Ethnohistoric Basis for Cultural Affiliation in the Marine Corps Base Camp Pendleton Area; Contributions to Luiseño and Juaneño Ethnohistory Based on Mission Register Records. SAIC, September 1998.
- Descendants of Native Communities in the Vicinity of Marine Corps Base Camp Pendleton; An Ethnohistoric Study of Luiseño and Juaneño Cultural Affiliation. SAIC, December 2001.
- A Window to the Past; Designing Archaeological Study on Camp Pendleton, California. ASM Affiliates, July 1997.
- Reconstructing the Regional Landscape: Considerations of a Multidisciplinary Research Strategy for Archaeological Survey of Camp Pendleton, California. ASM Affiliates, 1996.
- The Las Flores Adobe National Historic Landmark Stabilization Program. The Graduate Program in Historic Preservation, University of Vermont, 2005.

3.1.2 Archaeological Sites

Archaeological sites are defined as the physical evidence of past human activity. ARPA defines an archaeological site as “material remains of past human life or activities which are of archaeological interest, as determined under uniform regulations.” Example of archaeological sites include burials, clusters of stone artifacts, shell middens, rock piles, rockshelters, brick walls, piers, shipwrecks, earthworks, trash pits, and building remains. ARPA limits archaeological resources to sites or items that are more than 100 years old. However, under the NHPA and other legislation, sites more than 50 years old, and in rare cases of exceptional merit but less than 50 years old, must be evaluated for their historical significance.

The following is a summary of the survey, excavation, and evaluation work that has been completed at CPEN over the past 50 years. A complete listing of the projects and an inventory of site information is available from the CRM and is stored in the Camp Pendleton Archaeological GIS database (CPAG).

Over 80 years of archaeological investigations along California's southern coast have yielded a long sequence of rich and diverse prehistoric occupation (Moratto 1984). This occupation is well-documented both south and north of CPEN, and extends from the early Holocene into the ethnohistoric period (e.g., Hines 1991, Meighan 1954, True 1958, Vanderpot et al. 1993, Warren 1964). At CPEN, little systematic research was undertaken until the 1960s. As of December 2003, 512 archaeological sites (including historic districts and specific historic-era resource areas or features) have been documented within CPEN including prehistoric villages, shell middens, milling sites, lithic scatters, and quarries and some historic era properties. The management tool that has been developed to track and access site data for CPEN is known as CPAG. This database was established in 1999 and allows the CRM to track and query information fields for archaeological sites, historic structures and buildings, cultural resource reports, and site status. CPAG is available to the CRM with limited site location information available to the AC/S ES staff for planning purposes. CPAG is maintained by the Base Archaeologist and is updated on an annual basis. The most recent CPAG update was completed in March 2006, and the information regarding cultural resources management activities that have occurred since that time is maintained in a regularly updated database in preparation for updating the system as funding permits. The current site information is summarized in the following section.

The site inventory is composed of 584 recorded sites, including 504 prehistoric sites, 6 ethnohistoric sites, and 25 historic sites. Approximately 49% (n=248) of the recorded sites have been evaluated for inclusion in the NRHP. Of all the 584 sites that have been recorded, 58 have been determined eligible for listing on the NRHP and are defined as historic properties (2 have been listed on the NRHP), 190 have been determined ineligible, 281 have not yet been evaluated for listing, 17 are described as being potentially eligible, though not systematically evaluated, 8 are listed as potentially ineligible, and 30 sites are categorized as being plotted at locations that are not verifiable at the survey level. The potentially eligible, potentially ineligible, and indeterminate site categories include resources that are in need of additional evaluation (through research and/or excavation) before final determinations can be made, meaning there are 306 sites that still require official determinations of eligibility. There are 23 site types that have been established, including 6 historic site types and 17 prehistoric site types.

The majority of the field investigations completed on the base have been cultural resource surveys. As of December 2003, 69 surveys have been conducted beginning in 1948 with McCown's (1964) survey of the De Luz area (Byrd 1996b). To date, over 98% of the surveyable portions of CPEN have been subjected to some level of survey coverage. The early investigations, circa 1960–1980s, were primarily conducted by archaeologists from San Diego State University. These investigations include surveys of the coastal region (Bull 1975, Kaldenberg 1982), inland areas (Murray 1981, Waldron 1978), and a series of major drainages, including Pilgrim Creek, Santa Margarita River, San Mateo Creek, and San Onofre Creek (Ezell and Thesken 1987; Ezell et al. 1980; Romani and White 1980; Tartaglia 1984; Welch 1975, 1978). Recent surveys that are more limited in scope include Clevenger et al. (1993), Gallegos (1991), Hines (1991), Pigñiolo (1992), and Polan (1984); while several surveys of significantly large size include Apple and Cleland (1994), Byrd (1999), Reddy (1998, 1999b, 2000b), and Reddy and Pallette (2000).

Early excavation projects on CPEN are more limited in number and scope, with only two extensive investigations. The unpublished excavation at CA-SDI-1074 by San Diego State University was the most extensive, exposing approximately 480 square meters (m^2) of the site area (Chace 1975, Hines 1991). The second major excavation project was at CA-SDI-4536, a Late Prehistoric period cemetery in the alluvium of Las Flores Creek (Ezell 1975). Fourteen tightly flexed inhumations were uncovered, with one producing a radiocarbon date of 1550 BP in association with a Cottonwood triangular point. One atypical burial was covered by a whale scapula, a practice described among the Chumash as early as AD 1776 by the missionary explorer, Pedro Font. The site is notable in that it lacks ceramics and

cremations, yet it is tentatively dated to the onset of the Late Prehistoric period. This indicates a lag for the presence of these two cultural indicators of acculturation.

A greater number of excavation projects have been carried out at CPEN in recent years (e.g., ARI 1973; Byrd et al. 1995; Byrd 1996; Byrd and Reddy 1999; Cook and White 1977; Reddy 1997b, 1999a, 2000a; Romani and White 1980; Singer et al. 1993; Welch 1978). A full listing of all projects is available from CPAG, and the reader is referred to *From Coastal Middens to Inland Bedrock Milling Camps: A Review and Assessment of Archaeological Test Excavations on Camp Pendleton Marine Corps Base San Diego County, California* (Reddy 1997a, b) for a relatively current summary of the excavation work that was completed as of 1997.

Some of the more extensively excavated areas include the coastal strip (Reddy 1999a), the lower reaches of the San Mateo and San Onofre creeks' drainages (Byrd et al. 1995, Strudwick et al. 1994, Reddy et al. 1996), the Las Flores Creek drainage (Byrd 1996a, 1997; Schaefer 1992a, b; Woodman 1996a, b), the Horno Canyon area (Byrd 1996a, Reddy 2000a), Santa Margarita River (Pigñiolo and Cleland 1996; York et al. 1999), the Case Springs area (Reddy 1997, 2000a) and the Ranch House area (Strudwick 1995). Very recent and in-progress evaluations are focused on the Red Beach corridor along Las Pulgas in the Papa One and Oscar Two training areas, moving inland towards Basilone Road.

Excavation sampling in the Las Flores area has been particularly extensive and includes the excavation at the multi-component Las Flores site (SDI-812/H), where a Mission period compound is underlain by a prehistoric/ethnohistoric village (Schaefer 1992a, b; Woodman 1996b). This site may be part of the ethnohistoric Luiseño community of Huisme.

Archaeological excavation on CPEN over the last 20 years has revealed a long, complex sequence of occupation that includes use of the valley floor, ridgetops, coastal terraces, and inland highlands. The results of these excavation and survey projects bear directly on our understanding of the landscape settlement, resource use, intersite relationships, and human adaptations across the region. The diversity of human adaptations on CPEN is evident when one contrasts the results of the Case Springs and highlands excavation programs (Reddy 1997a, 2000a) to those from the coast (Byrd 1996a, 1997; Byrd et al. 1995; Reddy et al. 1996; Reddy 1999a; Strudwick et al. 1994; Strudwick and Gallegos 1994a; Woodman 1996a, b). Given the current research focus of the excavation program, there is an obvious bias toward shell middens, primarily due to their large size, long-term research interests, and the fact that these sites correspond to where twentieth century development has occurred. However, this is slowly changing as an increasing number of inland and highland sites are being excavated on CPEN (see Reddy 2000a, York et al 1999).

In the 50 years of archaeological investigations on CPEN, 69 surveys have recorded over 512 sites, of which 125 have been excavated. Archaeological study on the base has varied from adequate investigations to projects that, based on generally accepted current standards, should be reviewed or redone. Despite this limitation, the archaeological database is evolving into a resource that is being used to address issues related to regional settlement subsistence systems and human adaptation. The maintenance and further integration of CPAG with the cultural resources management process will enhance the management and protection of base cultural resources.

3.1.3 Historic Buildings and Structures

Historic buildings and structures encompass a wide variety of historic properties, some of which are easily recognized and some of which are not. The meaning of historic building is generally understood, and the types of buildings that are classified as historic are also fairly easy to visualize. In contrast,

historic structures can include elements of the built environment that are not typically thought of as historic, in particular when they are part of a larger historic district. Historic structures include shelters, bridges, roads, walkways, boat docks and wharves, railroad tracks, airfields and their runways, sewage treatment plants, recreational facilities such as pools and tennis courts, and monuments. CPEN has numerous buildings and structures of historic importance.

The most comprehensive document for the historic buildings and structures at CPEN was completed in April 2000 by JRP Historical Consulting Services. This four-volume presentation includes a historical overview and context for CPEN and a detailed discussion of the properties. There are 3,572 buildings and structures on CPEN, built between 1942 and 1989. There are 6 buildings among the evaluated properties that appear to meet the criteria for listing in the NRHP.

In addition, there are two NRHP historic-era compounds on CPEN that were constructed during the Rancho Santa Margarita tenure prior to the military era. One of these properties is the Santa Margarita Ranch House complex, which comprises three adobe-walled buildings and miscellaneous smaller structures on an approximately 21-acre parcel in the central area of CPEN near 22 Area. The Santa Margarita Ranch House complex includes the ranch house proper, which is a large adobe residence built between the 1840s and the 1880s, with some concrete additions beginning in 1916. There is a bunkhouse made of adobe and concrete that was constructed in the mid-nineteenth century and an adobe chapel that dates from the mid-nineteenth century. There are Mission records that indicate a structure was built at this location prior to 1827, but there are no remaining elements in the Santa Margarita Ranch House complex that match the dimensions of this early structure. The ranch house property was listed in the NRHP in 1971 and the adjoining structures were listed in 1993. The Santa Margarita Ranch House complex was designated a national historic landmark in 1994. The ranch house is currently used as the residence of the CPEN Commanding Officer.

The Las Flores Adobe is a California ranch house built in 1868. There are three elements to this complex. First is a two-story Monterey style building, the second is a single-story Hacienda style building, and the third is a carriage house. The Monterey and Hacienda buildings are joined in a perpendicular fashion, with the single-story building abutting the two-story segment at the north end. This complex was under private control within CPEN until 1968 through a life-tenancy agreement. The property was vacant from 1968 until 1974 when it was leased to the Boy Scouts of America. The Scouts held caretaker status for many years with some recent modifications. This property was listed on the NRHP in 1991 and in the past several years has undergone a dramatic rehabilitation process through a joint arrangement between CPEN and the National Park Service.

The following is a list of the documents that have been completed to identify and manage the historic era resources on CPEN.

- Inventory and Evaluation of National Register Eligibility for Buildings and Structures at Marine Corps Base, Camp Joseph H. Pendleton (JRP Historical Consulting Services, April 2000)
- Las Flores documents
- Estancia documents
- WWII information
- Ranch House information and plan

3.1.4 Historic Landscapes

No historic landscape studies have been completed for CPEN.

3.1.5 Monuments and Memorials

The only monuments and memorials that would be considered cultural resources would be those that are directly linked to a historic event, act, or place related to CPEN. Cannons, guns, airplanes, and other memorabilia that have been randomly placed around the installation are not considered to be the types of cultural resources that are the subjects of this document.

There is currently no complete list of monuments or memorials for CPEN. An inventory of these features is being prepared.

3.1.6 Documents

Historic photographs, early site plans, original drawings, and old real property record cards are important tools for the identification of historic buildings and for the evaluation of their significance. Such documentation allows accurate repair or reconstruction of parts of a property, provides a record of existing conditions when planning for future rehabilitation projects, and preserves information about a property that will be demolished but whose history is important. Old photographs and site plans also document sites that have been gone for a long time, and the surviving record may be used to identify potential environmental issues and concerns for new development in a previously occupied location.

Original plans, photographs, and documents related to the historic buildings of CPEN are considered cultural resources. The CPEN Museum Officer manages hundreds of historic photographs and documents about CPEN, the USMC and Navy presence, and the surrounding area. The graphic records include photographs as prints and slides, photographic negatives, maps, and building plans. Text sources include manuscripts and books.

These materials are to be stored according to current archival standards, and copies of all final reports are kept in the Cultural Resources Branch library and written to the AC/S ES electronic library. Both paper and electronic copies of final reports are retained by the Cultural Resources Branch. Specific project-related documents such as field notes, photographic notebooks, and project files are curated at the San Diego Archeological Center, a federally approved repository.

3.2 FUTURE INVENTORY / MANAGEMENT REQUIREMENTS AND RECOMMENDATIONS

Based on review of the status of knowledge for CPEN, this section describes the outstanding inventory and management requirements for CPEN.

3.2.1 General Inventories and Plans

This ICRMP will be made available in an electronic version on the CPEN home Web page. Copies of this document should be circulated among the Environmental Security Branches and other appropriate

CPEN organizations. Other base-wide documents such as the Historic Building Evaluation should also be available to CPEN users in an Internet format.

3.2.2 Priority List of Inventory / Management Recommendations

The following recommendations are described in detail in subsequent sections of this document.

3.2.2.1 Archaeological Sites

The archaeological inventory will be considered complete when 100% of CPEN, excluding the non-live fire impact areas, has been subjected to systematic survey or determined to be outside the range of feasible survey due to topography, accessibility, etc. As of December 2003, approximately 95% of the surveyable land on CPEN had been subjected to systematic survey. Further refinement of the site information includes the evaluation of the prehistoric and early historic archaeological sites on CPEN. The CPAG system was established to track the areas of survey, locations and attributes of recorded sites, and the status of these sites based on annual updating of the CPAG data. This data allows for rapid review of base projects and predictive determinations for base actions. CPAG offers:

- review of planning projects, thereby giving the CRM an early method of determining if an undertaking has the potential to disturb significant archaeological sites and the area of potential effect (APE) for the undertaking
- archaeologists working on CPEN with a means of reviewing anticipated resources and background information for context and predictive tasks
- archaeologists and the CRM with a set of relevant research questions that can be applied in determining resource eligibility
- assistance for the CRM with tracking the section 110 inventory and evaluation responsibility

In the future, the compiled data from the inventory can be prepared in a summary document for the public, interested groups, and other archaeological professionals.

3.2.2.2 Historic Buildings and Structures

Inventory

The inventory of buildings and structures built between 1942 and 1989 is current for all buildings and structures on CPEN (JRP 2000). There are six buildings among the evaluated group that were determined eligible for nomination to the NRHP. The remaining buildings were found to be not eligible because they lack integrity or because they are less than 50 years old and do not meet the level of exceptional significance. There are several buildings that have matured or will mature to the age at which they must be re-evaluated (50 years). Once these building reach 50 years of age, it will be necessary to re-evaluate the significance of each of these structures under NRHP Evaluation Criteria A through F. It is possible, but unlikely, that some of these buildings may be determined to be significant.

With this in mind, it is recommended that CPEN conduct an evaluation every five years to determine the significance of buildings that have reached 50 years of age since the previous evaluation cycle. CPEN should plan funding to coincide with fiscal year 2010 to maintain this schedule. Once the five-year cycle is begun, out-of-cycle evaluations can be conducted as follows:

- Reevaluate buildings or structures, which in previous evaluations have been determined ineligible for listing, **only** if the SHPO, ACHP, or an interested member of the general public (as defined in the NHPA) specifically requests they be evaluated.
- Conduct out-of-cycle evaluations on an as-needed basis for buildings and structures that become 50 years old between scheduled evaluations when:
    - a significant undertaking is planned
    - consultation with the SHPO determines that buildings and structures eligible for the NRHP are within the APE from a proposed undertaking
    - an undertaking will adversely affect an identified historic building or structure
- Evaluate buildings and structures at CPEN that are less than 50 years old and are not scheduled for demolition **only** if CPEN, the SHPO, or an interested member of the general public provides information that substantially supports the conclusion that the property is of exceptional importance, or if the structure is of a type not identified in the California Military Historic Structures context. The definition of exceptional importance is from the National Register Bulletin *Guidelines for Evaluating and Nominating Properties that Have Achieved Significance Within the Last Fifty Years*" as follows: CPEN will consult with the SHPO prior to demolishing any structure 50 years or older, provided it is not covered by a pre-existing agreement document.

Determining Architectural Character

Preserving the architectural integrity of individual historic buildings on CPEN will preserve the overall context of the historic period. Maintaining a building in good repair preserves its integrity by preventing the loss of original building fabric and architectural details. Preserving integrity encompasses aspects of design as well as the need for routine maintenance and repair. The replacement of deteriorated building elements or the rehabilitation and adaptive reuse of an entire building (such as the Las Flores Ranch House) can significantly affect the architectural character and appearance of both a building and its surrounding features. Therefore, it is important that such actions are performed in a manner that is sensitive to the architectural design of the building. The National Park Service has developed *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, which describes standards for preservation, rehabilitation, restoration, and reconstruction projects. The standards address issues as diverse as building materials, building elements, interiors, site, and setting as well as special considerations such as energy conservation and disabled access.

To preserve the integrity of historic buildings (eligible structures), the architectural character of every historic building should be analyzed and the character and defining features identified. For some buildings, it may be determined that the interiors are no longer significant.

To provide a general overview of the architectural significance of a building, preservation zones or "building zones" should be assigned to various parts of a building. Building zones establish the planning framework for the operation, maintenance, and rehabilitation of individual buildings by dividing the buildings into logical areas consistent with their use, original design, public access, and integrity. Within each building zone, each feature should be given a rating that identifies how the feature should be treated when repairs are necessary. The rating should be based on the significance of its contribution to the architectural character of the building and to its physical condition.

Reports should be prepared for all the buildings and structures at CPEN determined to be historic properties with SHPO review of the assigned zones and treatment ratings. These reports will be used to guide design and maintenance personnel in determining the appropriate course of action when maintenance and repair actions are required.

Building Condition and Assessment / Maintenance Management Program

As presented above, historic integrity is dependent on the integrity of individual buildings. Maintaining a building in good repair preserves architectural integrity by preventing the loss of original building fabric and architectural details. To maintain awareness of the condition of its historic and potentially historic buildings and infrastructure, CPEN should develop a field inspection protocol to identify the maintenance and repair needs of the buildings and structures determined to be historic properties. Each inspection should be conducted by a qualified inspector and follow a standardized list of questions to ensure consistent and thorough assessments. Each building should be assessed on its own form with all of the attributes reviewed at one time. Following the inspection process, a summary of the overall condition of the resources should be made with prioritized requirements. The recommended steps are:

- Develop a field inspection form to track the physical condition of the buildings and structures of importance including structural elements, exterior envelope, and interior features or elements.
- Inspect buildings on an annual basis noting maintenance deficiencies and code compliance issues. Include field photographs and/or sketches to assist in the analysis of data.
- Compile and analyze data. Prioritize work requirements as critical, serious, or minor. Develop an annual maintenance and repair plan for each building and for the installation as a whole with the result of bringing all important buildings up to good or better condition. The ranking of buildings is as follows:

  Good: The building and its features are generally in good condition. There are either no maintenance problems, or the maintenance problems/shortcomings that do exist are cosmetic in nature and will not generally lead to more serious deterioration of other building features. In general terms the building needs only routine maintenance.

  Fair: The building shows early signs of wear, failure, or deterioration, although the building is generally structurally sound. There may be moderate to severe deterioration of non-structural elements but not more than approximately 25% of the total number of features. The deterioration of non-structural elements is such that, if not repaired within the next five years, there may be deterioration of structural elements.

  Poor: There is deterioration of structural elements which, if not repaired within the subsequent twelve months, could lead to catastrophic failure and loss of the historic resource. There may also be moderate to severe deterioration of non-structural features.
- Place all buildings on an installation-wide cyclical maintenance program to ensure their continued ranking at the “good” level. Conduct periodic inspections to update the assessment of these resources.

Project / Work Order Review

Section 106 of the NHPA requires all federal agencies to take into account the effect of their activities on cultural resources that are listed in, or eligible for, the NRHP. Unless covered under a PA between the installation and the SHPO and other interested parties, all work performed on a historic building or within a historic district should be reviewed by the CRM.

To aid in determining if the CRM should review a project, it is recommended that a “work order review” form is developed. This form should include a series of questions that will assist in determining whether a project has the potential to affect cultural resources. These recommendations apply to architectural, landscape, and archaeological resources alike. Sample questions include:

- Does the proposed work involve a building(s) on the historic properties buildings list (including open spaces and park areas)? Does the proposed work exceed typical "replacement-in-kind" (e.g., repair or replacement that exactly matches the existing location, type of material(s), color, shape, size, and appearance)?
- Is the proposed work location visible from any historic building or district? Will the proposed work result in any change in the view to or from a historic building, district, or landscape?
- Is there any ground disturbance anticipated as a result of the proposed work? Does the ground disturbance occur in a previously undisturbed area or in a previously disturbed area to a depth greater than the previous disturbance? Does the ground disturbance occur in an area that has not been surveyed for archaeological resources?
- If the proposed work generates ground disturbance in designated historic landscape areas, does the project provide for the protection of vegetation, sidewalks, buildings, and structures?

If the answer to any of the first three question sets is "Yes," or the answer to the fourth question is "No," there should be consultation with the CRM prior to implementation of the proposed work in order to determine whether the proposed work represents a potential adverse effect to a historic property.

Standard Design Details

CPEN should develop design details or standards for typical building elements such as window repair, window replacement, handicapped access, street lighting, light fixtures, and other elements as determined through consultation with the Facilities Maintenance Division. Such standard designs and details should be coordinated through the CRM and the SHPO. This process will assist in making sure that the details will be appropriate to the buildings in terms of design and materials.

3.2.2.3 Historic Landscapes

Landscape refers to the "collective surface features of a place and the spatial relationships among those features, including natural terrain, human affected terrain and the built environment." This would include areas of open space, buildings, roads, paths, and landscaping.

> "A military landscape is a landscape that has been uniquely shaped through human activity in support of a single or multiple military missions of the United States Department of Defense or its antecedents. A historic military landscape is a military landscape that is significantly associated with historically important persons or events, or is an important indicator of the broad patterns of history, or represents a significant example of design or construction. For the purposes of the National Register, a historic military landscape is a category of property potentially eligible for listing in the National Register of Historic Places as a historic site or district. To be eligible for nomination to the Register a historic military landscape must have sufficient integrity to convey its significance" (Loechl, Batzli, and Enscore 1996).

3.2.2.4 Monuments and Memorials

There are no recorded monuments or memorials for CPEN at this time. An inventory of these features is being prepared.

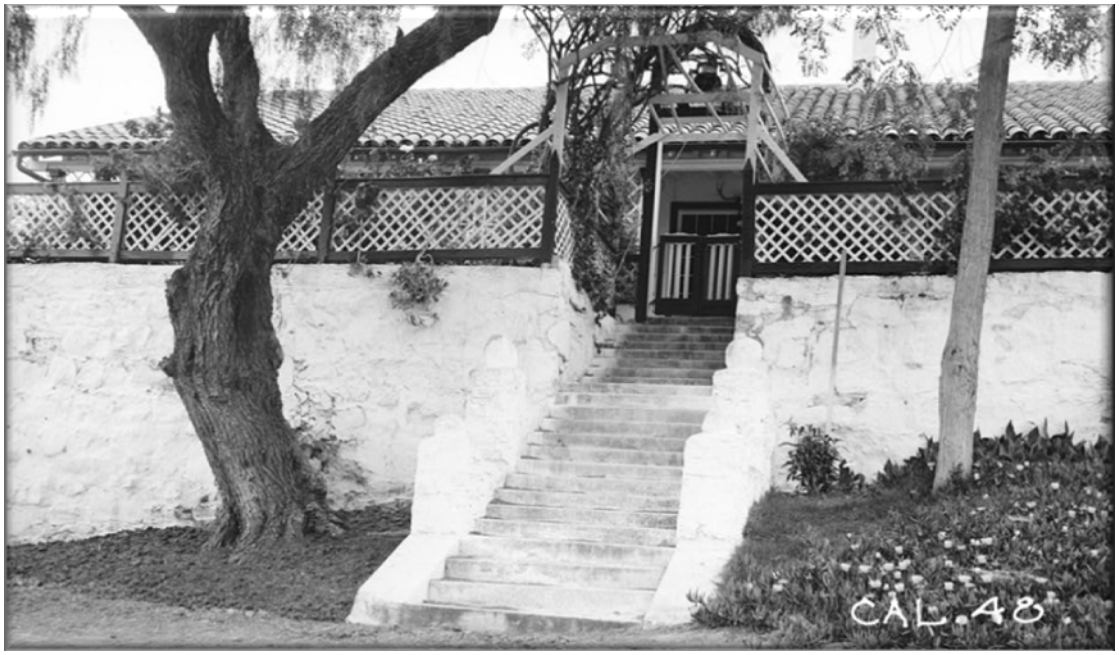
Inventory

A comprehensive inventory of all of the monuments, memorials, and National Historic Landmarks on CPEN should be completed soon. In order to accomplish this, the following steps should be taken:

- Review files to determine baseline information.
- Conduct field survey to verify existing records and update files.
- Communicate with points of contact of each tenant activity to see if there are any memorials or monuments associated with their activity.
- Develop a field inventory form to include the name of the monument/memorial, location, for whom/what it was erected, by whom it was erected, date of installation, description, and structural condition.
- Conduct a field survey.
- Provide recommendations for developing a policy for nominating, designing, and siting future monuments or memorials.

Documents

Original drawings for CPEN are held by Public Works, Facilities Management, and the Museum Officer. An assessment of the storage of these documents should be made and a catalog should be developed. There should be a protocol for storage of original photographs and drawings of buildings that are eligible for listing on the NRHP. Efforts should be made to catalog, label, organize, prepare, and store documents and photographs that are of historic importance to the base. CPEN will continue to maintain a professional relationship with a curation facility that can be used for the future curation of archaeological documents and support materials associated with CPEN projects.



4.0 CULTURAL RESOURCES MANAGEMENT

4.1 INTRODUCTION

The purpose of this ICRMP is to outline the short-term and long-term goals of CPEN's cultural resources management program and document the processes by which the CRM can meet these goals. This plan provides the goals, processes for meeting the goals, and any reporting requirements for monitoring the status of the cultural resource program.

The cultural resources program is not the primary mission of CPEN, although a successful and efficient cultural resource program is a critical aspect of supporting the military mission of CPEN. Ideally, the CRM works efficiently and effectively to accomplish tangible achievements and to minimize risk to cultural resources. This is done by minimizing risk to important cultural resources by taking into account the interests of outside parties and supporting the military mission.

This chapter is organized to include the management goals, the management action descriptions that provide for the maintenance of the program, the monitoring protocols that evaluate the success of the program, and future management requirements for maintaining and improving the program.

4.2 MANAGEMENT GOALS OF THE ICRMP

The management goals of this plan are:

- to support the CPEN mission to train Marines
- to comply with USMC and Navy standards which are derived from federal legislation pertaining to cultural resources management
- to maintain a cultural resources program that meets its mission
- to assess the success of the cultural resources program
- to identify improvements that can be made in the management process

The CRM plans to meet the existing standards, implement program improvements, and respond to new initiatives and emergencies as they arise. In developing this plan, the CRM can identify additional work that may be needed to more effectively meet existing standards. Responses to some emergencies can be standardized, such as dealing with the inadvertent discovery of an archaeological site or human remains. A PA is in place to assist in the management of these re-occurring events (Attachment C). CPEN has established procedures to ensure compliance with current federal legislation. However, new USMC or Navy initiatives may ultimately affect cultural resources management and are not reflected in this ICRMP. The recourse for the CRM is to assess the success of the ICRMP on an annual basis and to redirect efforts, as necessary, in the annual work plan. With the first major five-year review of the ICRMP, the overall plan can be modified as appropriate.

4.3 CULTURAL RESOURCE RESPONSIBILITIES

This ICRMP is intended for use by the cultural resources staff, AC/S ES, and land planners. It is important for the various divisions of CPEN to work together to coordinate the various responsibilities and ensure protection and management of the cultural resources. This section lists and describes several basic CRM responsibilities.

Cultural resources oversight is vested under the cognizance of the AC/S ES. There is a CRM or Cultural Resources Branch head who is under the direct supervision of the head of the Resources Management Division (Figure 4-1).

The ultimate responsibility for historic preservation compliance rests with the CPEN Commanding Officer. That responsibility includes all efforts to meet requirements of public laws such as NHPA, ARPA, and NAGPRA. The Commanding Officer budgets for necessary funds to meet the CPEN's cultural resources stewardship requirements, and requests additional funds as appropriate. The CPEN Commanding Officer delegates operational tasks to several post staff as follows:

- AC/S ES
- Natural Resources Department Head
- Resources Management Division Head
- Cultural Resources Management Branch Head (Base Archaeologist)
- Staff Archaeologist

The post of CRM is a full-time, governmentally inherent responsibility with the knowledge, skills, and abilities defined below. When the CRM is absent from the post for more than three consecutive weeks, the Resources Management Division head may be delegated the CRM's responsibilities, until the CRM is again available, if that individual has completed the section 106 compliance training course within the past two years of this temporary assignment. Otherwise, the CPEN Commanding Officer will seek professional support elsewhere for managing implementation of the Historic Preservation Plan. Notification of issues related to historic preservation compliance will be directed to the CRM who will address all communication regarding archaeological issues, subject to approval by the AC/S ES. The chain of command in communication may be dependent on the particular issue at hand. The existing chain of command for the AC/S ES is provided as Figure 4-1.

4.4 CULTURAL RESOURCES MANAGER QUALIFICATIONS

This professional position has responsibility for implementing cultural resources management policies and procedures at CPEN. The responsibilities are delegated by the CPEN Commanding Officer or his designee to the CRM. The Commanding Officer will appoint a CRM for the installation who is certified by the Register of Professional Archaeologists (RPA) and who meets the minimum professional qualification standards for principal investigator in archaeology as defined by the *Secretary of the Interior's Standards and Guidelines.*

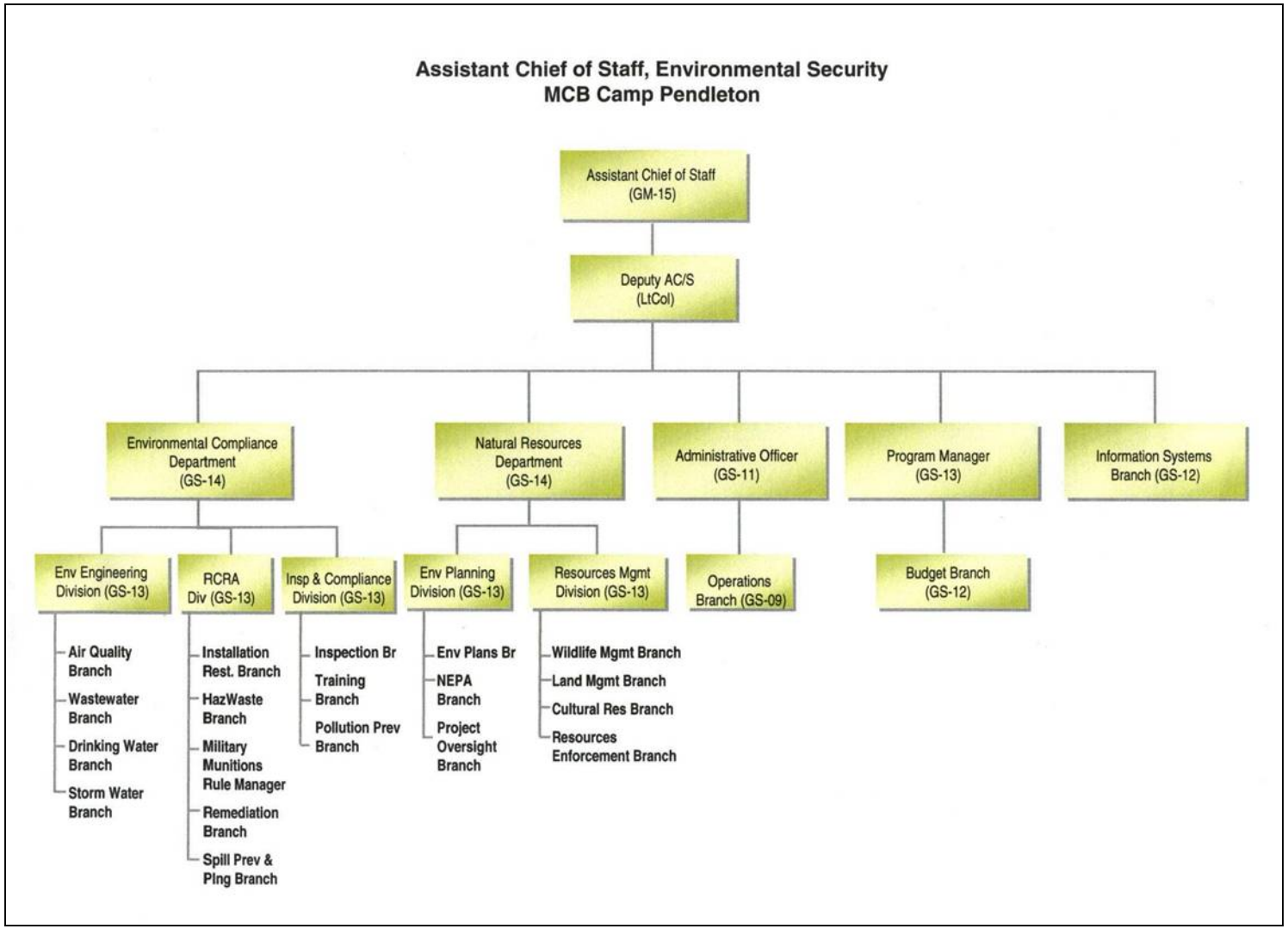


FIGURE 4-1. CHAIN OF COMMAND DIAGRAM FOR AC/S ES, CAMP PENDLETON

The CRM is a full-time civil service position staffed by an individual who meets the above qualifications standards. DoD Instruction (DoDI) 4715.4 states that the management and conservation of natural and cultural resources under DoD control, including planning, implementation, and enforcement functions, are inherently governmental functions that shall not be contracted. DoDI 4700.4 states that the management and conservation of natural and cultural resources under DoD stewardship is an inherently governmental function. The SHPO will be informed by the CPEN Commanding Officer or his designee, regarding the delegation of CRM responsibilities and staffing changes or vacancies.

The following knowledge is required by the position and will be incorporated into the position description for the CRM:

- professional knowledge of the principles, concepts, and methodology of archaeology and archaeological research, and the ability to use that knowledge in professional dealings with others in archaeology and associated field sciences
- professional knowledge of the principles, concepts, and methodology of historic archaeology and historic architecture
- thorough knowledge of California history, archaeology, and anthropology of indigenous California Indian groups
- in-depth knowledge of cultural resources management and historic preservation, and laws relating to cultural resources
- an understanding of NHPA sections 106 and 110 requirements regarding the consultation process with the SHPO and the ACHP
- sufficient knowledge of NAGPRA to understand and respond to legal requirements of an inadvertent discovery and to implement the NAGPRA comprehensive agreement
- understanding of and ability to establish and maintain good working relationships with contemporary Native American communities
- capability to respond to ARPA violations and to issue ARPA permits
- ability to prepare concise, well-organized reports concerning a variety of archaeological and anthropological program areas
- ability to prepare analyses of CPEN resource management program in terms of stated goals and objectives
- knowledge of CompTRAK and the ability to organize a budget that can be articulated in terms of mission support, regulatory compliance, public perception, and scientific value

The Archaeological Assistant post is a full-time position staffed by an individual who meets the minimum professional qualification standard for an archaeological technician as defined by the Secretary of the Interior's Standards and Guidelines, and who has a general understanding of cultural resources management laws. This individual works under the supervision of the Base Archaeologist and assists with all aspects of the Base Archaeologist’s tasks.

4.5 CULTURAL RESOURCES MANAGER TRAINING REQUIREMENTS

The CRM shall be trained in NHPA section 106 compliance. Such training is sponsored by the ACHP, generally through regularly scheduled classes offered by the General Services Administration. If the CRM has not received such training within three years prior to assuming the position, such training will be completed within six months of the appointment. The Resources Management Division Head is required to have successfully completed section 106 compliance training within two years prior to

temporary assignment of cultural resources management responsibilities by the CPEN Commanding Officer or his designee.

In order to properly maintain the NRHP-listed historic structures, the CRM must be knowledgeable of the Secretary of the Interior's standards and guidelines for rehabilitating historic buildings. The CRM shall complete the "Historic Structures Maintenance" training program offered biannually by the California Department of Parks and Recreation (DPR), or similarly structured training. Others who are involved in regular maintenance or planning for reuse of historic structures are encouraged to complete this training.

Training in ARPA compliance and enforcement is required for the CRM. Archaeological resources protection training is offered through agency programs; for example, a 40-hour course is presented by the National Park Service through its Law Enforcement Employee Development Division and by the Federal Law Enforcement Training Center (FLETC) based in Glynco, Georgia, or by the University of Nevada, Reno.

The CRM shall be trained in the requirements and implementation of NAGPRA; such training is offered through the University of Nevada, Reno. The CRM shall also be required to attend at least one training course on the DoD American Indian and Native Alaskan.

The CRM shall also be adequately trained in wildfire suppression in order to participate safely in any firefighting efforts at CPEN, as approved by the CPEN fire department.

4.6 MAJOR DUTIES OF THE CULTURAL RESOURCES MANAGER

The responsibilities of the CRM include, but are not limited to, the following:

- Maintain professionally adequate records, photographs, cultural resources inventory files and base maps, documentary materials on work performed, consultant data, written communications, maintenance manuals for NRHP-listed buildings, and other information sources regarding the cultural resources management program at CPEN.
- Conduct or arrange for archaeological field inspections, surveys, monitoring, and excavations by qualified personnel as needed.
- Advise the CPEN Commanding Officer, through his or her chain of command, on all matters relating to cultural resources.
- Coordinate with the Operations and Training Officer, Facility Manager, and other land managers, either directly or through appropriate AC/S ES staff, to implement the CPEN mission. Coordination should take place as early as possible in the planning process for any proposed activity that may have an effect on significant cultural resources, to allow for any necessary SHPO notification or consultation.
- Coordinate with the Real Estate Office, either directly or through appropriate AC/S ES staff, in the development of agriculture lease agreements, and other appropriate staff in the development of other lease contracts, rights-of-way, and easements to ensure protection of cultural resources.
- Coordinate with law enforcement officials, the Chief Game Warden, Naval Criminal Investigation Services, and other appropriate staff for enforcement of ARPA; administer the Cultural Resources Use Permit program (cf. ARPA).

- Coordinate with USMC Public Affairs Office and the AC/S ES training office to plan and promote the public's participation in historic preservation and enjoyment of cultural resources at CPEN, including: (1) Native American consultation; (2) public site tours and educational opportunities; (3) education of military and non-military users regarding values of cultural resources and legal obligations under ARPA and NAGPRA (including establishment of a procedure to advise the public of the illegality of disturbing cultural resources); and, (4) communication of cultural resources values at CPEN via professional publications and speaking engagements at public schools, avocational archaeological and historical groups, and local service organizations.
- Participate in preparation of all land management and environmental compliance documents for CPEN, e.g., coordinate with Fire Chief and Facility Manager, whether directly or through appropriate AC/S ES staff, for contribution of cultural resources section of Fire Management Plan including periodic prescribed burn plans.
- Monitor compliance with cultural resources management regulations and immediately report all observed or reported infractions to the CPEN Commanding Officer through his/her chain of command.
- Manage all cultural resources research and treatment actions (e.g., archaeological and other historic structures, historic research), cultural resources inventory and assessment activities, and coordinate with the Facility Manager and the Museum Officer on management of the NRHP-listed properties.
- Prepare suggested correspondence for consultation with the SHPO and the ACHP on behalf of the CPEN Commanding Officer pursuant to NHPA section 106, and for consultation required for any undertaking not addressed by the Historic Preservation Plan.
- Act as the CPEN Commanding Officer's liaison in regular consultations with interested Native American descendants to ensure compliance with ARPA and NAGPRA, and with other interested parties, providing notice of section 106 compliance actions and of periodic review and revision of the Historic Preservation Plan. Provide guidance for compliance with the DoD American Indian and Native Alaskan Policy.
- Consult with professional colleagues within the agency for technical guidance as needed; meet with non-agency professionals, community groups, other governmental staff, private contractors, or business persons as is necessary to effectively meet cultural resources management responsibilities and goals.
- Ensure timely dissemination of new information generated as a result of CPEN cultural resources studies.
- Participate in installation planning to secure adequate staffing and funding to effectively undertake and realize historic preservation objectives at CPEN.
- Prepare annual Historic Preservation Compliance Reports (HPCRs) submitted via the CPEN Commanding Officer to USMC staff, the SHPO, and the ACHP, and make HPCRs available to interested persons by regularly filing HPCRs at local public libraries. HPCRs shall document the following:
    - Section 106 compliance actions
    - Historic structures maintenance
    - Archaeological clearance program
    - ARPA compliance/permits, education program
    - NAGPRA and AIRFA compliance
    - Public participation program
    - Inventory studies

- Assessment studies
- Treatment studies
- Archaeological monitoring
- Emergency discoveries

The USMC will reiterate these duties in the performance standards for the post of CRM.

4.7 TYPES OF UNDERTAKINGS

There are many different types of undertakings on CPEN with the potential to affect cultural resources. The following section presents the sources of potential impacts and the criteria that are used to determine if an undertaking may cause an adverse effect.

4.8 SOURCES OF IMPACTS TO CULTURAL RESOURCES ON CAMP PENDLETON

Current and future activities at CPEN have the potential to affect cultural resources eligible for inclusion to the NHRP. These activities include a variety of training, construction, and maintenance programs, which cause differing degrees of disturbance and are often undertaken under accelerated schedules.

4.8.1 Criteria

Criteria of effect apply to all federal and federally assisted or licensed undertakings, including new and continuing projects and any elements not previously considered under section 106 of the NHPA.

4.8.2 Undertaking

An “undertaking” means any project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency (36 CFR 800.16(y)).

4.8.3 Historic Property

The term “Historic Property” refers to any historic or prehistoric district, site, building, structure, or object included in, or eligible for inclusion in the NRHP. This term includes artifacts, records, and remains that are related to and located within such properties. The term “eligible for inclusion in the NRHP” includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet NRHP-listing criteria (36 CFR 800.16(i)(1) and (2)).

4.8.4 Criteria of Adverse Effect

An important part of the section 106 process is to determine the potential effects of the proposed undertaking on cultural resources that are eligible for the NRHP. An undertaking has an effect on a historic property when the following two criteria are met:

- the undertaking may alter characteristics of the property (including relevant features of its environment or its use) which qualify the property for inclusion in the NRHP
- the alteration may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association

4.8.5 Effects on Historic Properties

Effects can be either beneficial or adverse. Beneficial effects of an undertaking may include restoration of a historic building or enhancement and protection of a prehistoric site. Adverse effects include but are not limited to:

- physical destruction, damage, or alteration of all or part of the property
- alteration of the character of the property's surrounding environment where that character contributes to the property's qualification for the NRHP
- introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting
- neglect of a property resulting in its deterioration or destruction
- transfer, lease, or sale of the resource
- effects caused by the undertaking that occur at the same time and place and effects caused by the undertaking that are later in time or farther in distance, but still reasonably foreseeable

4.8.6 Example of Adverse Effects

Adverse effects to cultural resources resulting from an undertaking may occur in a variety of ways. Adverse effects caused at the same time and place include but are not limited to:

- damage from construction and earthmoving equipment
- off-road vehicle travel in protected site areas
- reuse or removal of structural materials from existing buildings
- digging within the boundary of an archaeological site

Adverse effects caused at a later time or farther removed in distance include but are not limited to:

- alteration of drainage or erosion patterns
- creation of access to previously inaccessible areas
- cumulative shock or vibration-related damage to structures

4.8.7 Ground-Disturbing Adverse Effects

The potential to damage historic properties can result from several project categories, but more often than not the threat depends upon the specific details of the projects rather than on the type of activity. Therefore, any ranking of types of potential impact on CPEN serves to illustrate, not evaluate, actual anticipated impacts. In general terms, installation undertakings that have the potential to damage historic properties include, but are not limited to:

- ground maneuver training
- facilities construction
- facilities maintenance
- firefighting, firebreak construction
- transportation and utilities

Many of these activities will occur in areas that have already been surveyed to acceptable standards. An internal check of CPEN archaeological records can determine this and aid in evaluating whether or not there is a project effect on cultural resources. CPEN is also looking at the types of actions taking place to develop a list of project types that would be categorically exempt from cultural resources review. In general, the actions listed in this section require some level of cultural resources review.

4.8.8 Ground Maneuver Training

Large-scale maneuver training is relatively common at CPEN. Experience confirms that protection of historic properties can be achieved through training the operators and application of appropriate constraints, at least in a deployment mode. Such is unlikely in the case of free-play tactical mode, and mitigation may be necessary to avoid impacts to cultural resources. Planning for these activities by the Base Command with input from the CRM is one way to avoid unnecessary effects.

4.8.9 Facilities Construction / Rehabilitation

Facilities construction/rehabilitation is a priority at CPEN. These activities should be preceded by a review of CPAG and possibly an archaeological survey. Potential project impacts to cultural properties will be avoided by relocation of the project, or if no other alternative is available, mitigated by data recovery or other approved treatment designed to protect and/or preserve the elements for which the property is considered significant. Consultation with the SHPO and Native American tribal governments will be conducted in association with all proposed projects that represent a potential for adverse effects, as required.

4.8.10 Facilities Maintenance

Maintenance of existing facilities determined to be historic or eligible for the NRHP at CPEN will be undertaken in accordance with the appropriate *Secretary of the Interior's Standards and Guidelines*. Prior to initiation of maintenance, consultation with the SHPO is required.

4.8.11 Firefighting and Firebreak Construction

Firefighting and firebreak construction usually require off-road vehicle travel, often with heavy equipment. Planned firebreaks can be surveyed and rerouted to avoid resources. Those built during a firefight pose a threat to cultural resources that cannot be completely avoided, particularly for natural fires. Prior survey and site marking could substantially reduce these types of impacts, and fire control personnel should be informed by the AC/S ES about off-site marking techniques and mapped site locations. To the extent possible, AC/S ES will monitor firebreak construction during or immediately after fire suppression. Prescribed burns will be reviewed for the presence of recorded archaeological sites prior to the activity. The burned areas will be surveyed after the prescribed burn occurs.

4.8.12 Transportation, Communication, and Utilities

CPEN requires an extensive transportation, communication, and utilities network. While much of this network is along existing roads, a great deal is cross-country to ranges, target areas, and other outlying locations. Archaeological survey of proposed elements followed by mitigation and/or avoidance will eliminate impacts to archaeological sites. For utility projects along existing roads, CPAG record checks by the CRM and monitoring of construction will serve to reduce impacts to cultural resources. Consultation with the SHPO and Native American tribes will be necessary if a finding of "no potential to cause effect" cannot be made after the review process.

4.8.13 Unauthorized Collection

Unauthorized collection of cultural materials by CPEN personnel or contractors can occur, although to a lesser degree than on publicly accessible federal lands. An emphasis on penalties, combined with a program of public education and outreach concerning the fragility and significance of cultural resources, will substantially reduce these impacts.

4.8.14 Historic Properties Discovered During Construction or Operations

Procedures that apply to properties discovered, uncovered, or affected in an unanticipated manner during construction or ground-disturbing operations are specified in 36 CFR 800.13. Major construction projects will have Archaeological Construction Monitoring and Discovery Plans in place that will call out in detail the requirements for treatment of archaeological discoveries made during construction. If human remains are discovered, the conditions contained within the NAGPRA comprehensive agreement shall be implemented.

4.8.15 Undiscovered Properties

If undiscovered properties appear likely to exist after construction, or on the basis of a cultural resources inventory or survey, AC/S ES will identify the need for preparation of a specific contingency plan for treatment in accordance with standards set forth in 36 CFR 800.13.

4.8.16 Coordination and Consultation

If historic properties are discovered in the absence of such a contingency plan, the AC/S ES office will be informed immediately and the historic property will be avoided, pending consultation with the SHPO. The AC/S ES Base Archaeologist will assess the potential adverse effects and will initiate consultation with the SHPO over an appropriate course of action in compliance with the terms of the PA concerning consultations.

4.8.17 Compliance

If the property is primarily archaeological in nature, compliance should be undertaken subject to Public Law (PL) 96-95 and DoD Regulation 32 CFR 229.

4.8.18 Avoidance

AC/S ES staff review of undertakings early in the design stage helps to minimize the opportunity for adverse effects. Avoidance of historic properties is implemented wherever practicable.

4.9 CORRECTIVE MEASURES AND MONITORING

The following steps apply in the event of an inadvertent discovery and are also the basic monitoring conditions and requirements for the implementation on any CPEN project that includes a requirement of construction monitoring.

4.9.1 Construction Monitoring Techniques

A pre-grade/construction conference will be held to inform the construction contractor of grading/construction monitoring procedures. Requirements of the approved ARPA permit prohibiting removal of archaeological material from federal property without a permit will be discussed.

All grading and other earth-disturbing activities within archaeological sensitive areas will be monitored by an archaeologist and a representative of a federally recognized Native American tribal member or non-federally recognized tribal member working with a federally recognized tribe. There will be at least one archaeologist at each work location where grading or trenching is occurring. The monitors will observe all earthmoving (by hand or mechanical means), and the approved archaeological consultant will inspect for cultural material.

If cultural material is found, the following procedures will be implemented.

- The archaeological field director will determine whether the find is an isolate (less than three cultural items within 50 m^2) or a site (three or more cultural items in 50 m^2) using shovel test pits (STPs) if necessary. If the find is an isolate, its location will be recorded, and the material will be collected as either a feature or an archaeological site.
- Earthmoving or grading within 150 feet of the discovery will be temporarily diverted and the CRM notified.
- If the find is a site, grading equipment will be diverted until site types and boundaries can be determined by following appropriate evaluation procedures. These procedures include STPs, shovel trenching, and a minimum of two hand-excavated 1 meter (m) × 1 m units per site or a minimum of one hand-excavated 1 m × 1 m unit per 400 m^2 of site area.
- If the site is a high-artifact-density location, sequentially re-occupied location, camp, residential base, or village, the data recovery procedures (mitigation) specified in the ICRMP and Construction Monitoring and Treatment Plan will be implemented.
- Should additional cultural material be exposed within the same site after impacts have been mitigated, additional mitigation (excavation) will not be required unless the additional material represents a new kind of data not recovered during the previous mitigation or is subject to NAGPRA. Such new data would consist of artifact classes and features not recovered during previous mitigation. Even if no additional mitigation is required, the newly exposed cultural material will be mapped and collected.

4.10 PROGRAM MANAGEMENT

The cultural resources program is not the primary mission of CPEN, although the cultural resources program mission supports the primary mission of this military base. Unless the primary mission of CPEN dramatically changes, the base will not direct unconstrained labor to address cultural resource issues. Realistically, the cultural resources staff has a limited effort that can be applied to further the cultural resources management goals. It makes sense under these circumstances to work efficiently and effectively to accomplish achievable goals that sustain compliance and minimize risk to cultural resources to the greatest degree practical. The main priority of the CPEN cultural resources program is to minimize the risk to important cultural resources while taking into account the interests of outside parties and supporting the military mission.

Effective cultural resources program management develops from experience, from an understanding of the importance of the military mission, and from an acceptance of the secondary yet highly relevant nature of the cultural resources program at CPEN. It also derives from cultural resource evaluations that are done in a context that leads to the seamless "integration" of cultural resources management with the ongoing military programs at CPEN. One purpose of this ICRMP is to provide decisive ways to establish and perpetuate the type of necessary contact with other programs that will make the process of cultural resources management a simple and relevant part of the efficient operation of the installation.

This plan provides the goals, the processes for meeting the goals, and the reporting requirements considered necessary for monitoring the cultural resources program at CPEN. The following chapter is organized to include the management goals of the ICRMP (which should be carried out by qualified on-site staff), the management actions that provide for the maintenance of the program, the monitoring protocols that evaluate the success of the program, the future management requirements for maintaining and improving the program, and tools for analyzing the economic aspects of the ongoing stewardship of CPEN's cultural resources.

4.11 MANAGEMENT GOALS OF THE ICRMP

The management goals of this plan are:

- to comply with USMC and Navy standards that are derived from federal legislation pertaining to cultural resources management
- to maintain a cultural resources management program that meets and supports CPEN's national security mission requirements
- to assess the success of the program
- to identify the improvements that can be made in the management processes

The CRM will meet existing standards, implement program improvements, and respond to new initiatives and emergencies as they arise. Through the development of this plan, the CRM can identify additional work that may be needed to more effectively meet existing standards. Responses to some emergencies can be standardized, such as dealing with inadvertent discovery of an archaeological site or human remains. CPEN already has many procedures and policies in place to ensure compliance with federal legislation and with Marine Corps Orders. However, the CRM cannot always foresee new USMC or Navy initiatives that may ultimately impact cultural resources management and cannot yet be reflected in the ICRMP. The only recourse for the CRM is to assess the success of the plan on an annual

basis and to redirect efforts if necessary in the annual work plan or priorities. When the five-year review of the ICRMP is due, the overall plan can be re-evaluated.

This section discusses general priorities for the inventory and the evaluation and treatment of archaeological sites. In general, the highest priority is given to those areas and sites that are at high risk of adverse impacts from training activities on CPEN.

4.11.1 Priorities for Inventory

As of 2005, field survey of all major training and cantonment areas is complete. Future field surveys will not be conducted in the live fire-training areas of Whiskey, Quebec, and Zulu, except in the portions of those areas in which new training ranges are planned. Prioritization of the future survey areas is based on the long-range planning needs of CPEN. For example, the live-fire and maneuver areas will be inventoried first. A priority for inventory also includes the maintenance of CPAG in order to promote the successful and efficient management of known cultural resources and historic properties at CPEN.

4.11.2 Priorities for Evaluation

As of January 2007, 584 archaeological sites have been documented on CPEN. These sites include prehistoric Native American villages, campsites, shell middens, milling sites, stone artifact scatters, and quarries, as well as historic pre-military and military features. Of the 584 recorded sites on CPEN, 248 have been evaluated for NRHP eligibility. Of the 248 evaluated sites, 58 have been determined eligible for inclusion on the NRHP (2 are listed on the NRHP), and 190 have been determined to be not eligible for nomination to the NRHP. Of the 336 sites that have not been evaluated for NRHP eligibility, 8 are categorized as potentially not eligible, 17 are considered potentially eligible, and 30 are considered to be plotted at locations that are unverifiable at the survey level.

Long-term stewardship of CPEN includes the evaluation of all unevaluated sites (336 as of January 2007), with the priority of evaluation based on long-range planning and ongoing changes in the mission. The sites having highest priority for evaluation are unevaluated sites that are found during annual monitoring to have been altered by natural and modern impacts and sites in areas of extensive training or increased access. A determination of the sites that will be evaluated will be accomplished on a yearly basis, based on a review of proposed training needs and proposed changes in the training areas of CPEN that will result in higher intensity or expansion of use patterns.

4.11.3 Priorities for Treatment

CPEN has an ongoing program that prioritizes the treatment of archaeological sites and historic properties, and identifies sites for which mitigation is necessary to allow the training mission to proceed. Examples of this ongoing program include the treatment of the Red Beach Ridgetop site complex, which has allowed the coastal ridge in an important training area to be used in a controlled manner, and the Las Pulgas Corridor Initiative, a PA and Treatment Plan being developed to allow training with limited constraints from Red Beach north through Las Pulgas Canyon to the Range 409 area.

4.11.4 Short-Term Cultural Resources Program Requirements

CPEN is developing a series of "short-term" requirements to facilitate the objective of managing cultural resources. These requirements will ultimately lead to a more expedited approach to management of all significant sites. Projects will be classified by type and level of impact to determine the nature of the appropriate cultural resources study/analysis. With 100% of the training areas and cantonment areas surveyed, it is possible to identify the impacts that proposed undertakings will have on cultural resources in these areas and design PAs appropriate for the management of the resources.

One example of this expedited, pro-active approach is a proposed methodology to assess small, sparse artifact scatter sites during the field survey stage of the cultural resources management process, rather than carrying this type of site through to more formal testing.

CPEN has conducted an ethnohistoric study to support NAGPRA compliance through Native American consultation and the development of a protohistoric research context. Subsequent to this study, CPEN has developed and will soon finalize a NAGPRA comprehensive agreement with the appropriate Native American tribes for the purpose of dealing with the inadvertent discovery of human remains, cultural objects, ceremonial objects, and objects of cultural patrimony on the installation.

4.11.5 Class of Projects Not Requiring Cultural Resources Survey

CPEN has developed a PA to deal with classes of projects that will not require consultation. It is anticipated that this PA will soon be finalized through consultation with the SHPO. Projects not requiring consultation include a broad range of public works actions. These projects, based on their nature or type of impacts, would not require an individual "no effects" concurrence from SHPO. The project types included in the PA are summarized in Table 4-1.

TABLE 4-1. PROJECT TYPES AND ACTIONS

Project Type	Level of Impact	Action
Recurring training that does not involve earthmoving or excavation of fighting units	None	None
Rehabilitating existing streets and graded roads within existing roadbed	None	None
Rehabilitating existing streets and graded roads below existing roadbed	Possible impact to unrecorded or known buried sites	Monitor construction
Rehabilitation of parking lots and parade areas within existing areas	None	None
Reconstruction, remodeling, and/or rehabilitation of buildings, not historic	None	None
Land survey projects	None	None
Revegetation of base areas not requiring ripping or drilling	None	None
Training with fighting unit excavation in areas previously studied for historic properties	None	Possible monitoring
Prescribed burns without grading	None	Possible monitoring

4.11.6 Small, Sparse Artifact or Ecofact Scatter Sites

CPEN is recommending that sites classified as small sparse scatters of artifacts or ecofacts with no apparent subsurface depth be evaluated at the survey stage. These sites will be assessed for eligibility during each survey. This will allow CPEN to assess sites that consist of a limited surface scatter of stone flakes or shellfish remains and to complete a determination of eligibility during the survey stage.

4.11.7 Geomorphic Study

CPEN is proposing to conduct geomorphic evaluations as part of the training area surveys. The purpose of these evaluations is to reliably identify those portions of CPEN that could potentially contain buried archaeological resources that do not have an identifiable surface component that can be detected through surface survey. Currently, all areas that contain alluvial deposits are considered to have the potential for buried deposits regardless of geomorphological context. As a result, archaeological monitors are required for all projects that involve excavation in these areas. The geomorphic study will allow CPEN to focus on those areas with proven potential for buried deposits and more efficiently allocate the use of program funds to further evaluate these areas.

4.12 CAMP PENDLETON CULTURAL RESOURCES PROGRAM REQUIREMENTS (FIVE-YEAR PLAN)

The seven primary goals of CPEN's cultural resources program for the next five years are designed to identify and address the management requirements that will keep CPEN in compliance with all applicable laws and regulations, promote more efficient site management, seamlessly support the USMC's military mission, and responsibly manage and preserve the variety of unique resources on CPEN.

GOAL 1: Completion of NRHP Evaluations for Archaeological Sites

Complete NRHP-eligibility evaluation of all prehistoric sites currently on the CPAG system. As of January 2007, approximately 336 of the prehistoric sites currently on the CPAG system have not been evaluated for their NRHP eligibility. Evaluation of these sites will continue to be carried out as funding and access permits.

GOAL 2: Site Monitoring/Management and Evaluation of Training Impacts

With the completion of the field survey of all cantonment and training areas, a more complete picture of the cultural resources at CPEN has been developed and will be maintained. A plan has been funded that enables the CRM to identify and respond to changes in the training requirements at CPEN. This plan is known as the Condition Assessment, Site Monitoring and Effects Treatment (CASMET) program. This program includes annual evaluation of over 80 high-priority sites, as well as ongoing assessment of changes in the use of training areas. Heavily utilized, mission-critical areas will also be routinely checked in order to assess the condition of previously recorded sites in those areas and assist in prioritizing and completing the treatment of impacted or potentially impacted sites, as necessary. Three levels of monitoring, either formal or informal, are essential to effective cultural resources management on CPEN. The three levels are:

- Monitoring the condition of known cultural resources. This is an ongoing condition assessment to determine if resources are at an appropriate level of maintenance. Normal wear and tear and other impacts to the resources are taken into account.

- Determining if the management of the resources is effective and if adaptive management actions are necessary. This can be accomplished by a yearly review of the program to determine what is working and what is not. The results of this review are used to summarize and communicate the progress of the program up the chain of command.
- Responding to unanticipated events and emergencies. The monitoring plan includes the establishment of procedures for identifying and responding to events that may affect cultural resources as they are discovered.

GOAL 3: Las Flores Adobe Ranch House Restoration

Complete rehabilitation of the Las Flores Adobe Ranch House. This structure is a National Historic Landmark and in 1988 was designated as one of the most endangered landmarks in the nation. CPEN has completed the Historic American Building Survey (HABS) and is in the process of rehabilitating the structure to reflect the major historic periods of its use and the reflected changes in that use over time. As of January 2007, the following actions have been completed on the Hacienda and Monterey portions of the house: rehabilitation of the exterior, interior walls, floors, doors, and windows; replacement of the second-floor porch and roof; portal paving and drainage culvert; and a seismic retrofit. The carriage house exterior rehabilitation was completed in 2005, and planning for the interior rehabilitation is in progress. The proposed schedule includes the completion of the interior rehabilitation and fire protection for the entire ranch house structure by the end of 2008.

GOAL 4: Implementation of Ranch House Multi-Use Public-Private Partnering Plan

Complete transfer of both ranch house complexes (Santa Margarita and Las Flores) to multi-use status, managed by public-private venture partner(s). CPEN is in the process of transferring the management of both ranch house complexes over to public-private venture partner(s) for multi-use designations in an effort to reduce the annual and long-term costs of maintaining and managing these properties, as well as opening them up to a wider spectrum of uses by a larger and more diverse group of users. This will be accomplished through the leasing of both properties to a public or private group(s) that will coordinate the use of the property by other public or private users based on an approved interpretive plan. This transfer in the status and management approach for these properties is designed to generate a revenue stream that will fund the annual maintenance costs and contribute to the ongoing, long-term improvement of these unique architectural resources on the installation.

GOAL 5: Promote Intra-Division Coordination

Provide project support to the Planning, NEPA, and Biological Resources branches of Environmental Security. To accomplish this goal, it will be necessary to maintain close coordination between these groups. The Cultural Resources Branch of the AC/S ES will continue to track upcoming projects through coordination with NEPA, Land Management, Natural Resources, and other branches of CPEN involved in project planning and implementation.

GOAL 6: Provide Fire Department Support

Provide continued support to the CPEN fire department in assessing potential impacts to cultural resources in areas proposed for controlled burning. In addition, a program to assist during uncontrolled burns will be developed in order to efficiently assess and respond to potential risks to cultural resources associated with wildfires and resultant fire suppression activities.

GOAL 7: Implementation of the Las Pulgas Corridor Initiative

Red Beach corridor is a funnel shaped corridor extending from Red Beach to the India training areas, Las Pulgas Canyon, and Range 409 in the eastern portion of CPEN. It is an essential corridor for use in base training missions and also contains a relatively high density of prehistoric archaeological sites. NRHP evaluations of the archaeological sites within this corridor are in progress. The objective of this

initiative is to reduce the overall footprint of cultural resources in the corridor, and thereby reduce restrictions to military readiness activities (training) that are ongoing and critical to CPEN's military mission. In anticipation of the completion of these evaluations and the identification of all potentially historic properties in the corridor, a PA of management and mitigation actions has been developed and submitted for consultation with the SHPO. The PA will allow the potential impacts of training activities to be identified as a group rather than on an individual basis. Completion of this goal will be an iterative process and is projected to be completed by the end of 2008.

4.13 COMPLIANCE PROCEDURES

This section discusses the basic elements of cultural resources management and compliance procedures that are implemented on CPEN. It includes duties of the personnel involved in managing cultural resources, the steps involved in the process of managing cultural resources, guidelines, practices, and the professional qualifications of individuals involved in all of the various aspects of cultural resources management on CPEN.

4.13.1 Conformance and Chain of Command

CPEN conforms to established guidelines for protection or treatment of historic properties contained in:

- Archaeology and Historic Preservation: Secretary of the Interior Standards and Guidelines (43 CFR Part 7; 36 CFR Part 60–64)
- Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, U.S. Department of the Interior, National Park Service (1983)
- Curation of Federally Owned and Administered Archaeological Collections (36 CFR Part 79)

4.13.2 Recommended Guidelines, Standards, and Management Practices

This section discusses the types and sequence of cultural resources management actions and decisions needed for efficient regulatory compliance. Upon the description of the proposed undertaking, the first step in the successful management of cultural resources is the identification and evaluation of all cultural properties that would potentially be subject to impacts from the proposed undertaking.

This section discusses the applicable regulatory and compliance procedures and guidelines used to coordinate the cultural resources program at CPEN.

4.13.2.1 National Historic Preservation Act Process

For the land uses of an action proponent at CPEN, the cultural resources management procedures will be an integral portion of the NEPA and NHPA compliance process. The procedures should be undertaken in coordination with the preparation of a categorical exclusion, environmental assessment (EA), environmental impact statement (EIS), or cooperative research agreement (CRA), as appropriate, based on the potential of the project to cause adverse effects to historic properties. Project proponents should note that in order to remain in compliance with federal statutes, the AC/S ES office is still required to carry out NHPA section 106 review even in cases that do not require preparation of an EA or EIS, if the action is an "undertaking" as federally defined.

4.13.2.2 Integration of the National Environmental Policy Act

In many cases, the results of the cultural resources management procedures are essential to the preparation of NEPA documentation per USMC regulations, in coordination with the AC/S ES office. Proposed treatment of significant cultural resources will be formally identified during the NEPA process as mitigation measures before an undertaking will be allowed to proceed or permits are sought from appropriate federal agencies.

Responsibility for consultation and compliance with NHPA section 106 resides with the AC/S ES, acting for the CPEN Commanding Officer. Consultation and approval is initiated only after complete documentation has been submitted through the AC/S ES office by the project or action proponent.

The NRHP eligibility procedures involve:

- identification of the project and its potential impacts
- identification of (acquisition of location and descriptive information) potentially affected cultural resources (record search and collection of survey-level data)
- determination of potential NRHP eligibility for identified, potentially affected cultural resources
- consultation with tribal governments and the public as required in 36 CFR 800
- preparation of a treatment plan to avoid or mitigate potential adverse effects to historic properties
- approval of the completed treatment plan
- implementation of the project

4.13.2.3 Permitting (Archaeological Resources Protection Act)

In accordance with ARPA and the Antiquities Act of 1906, the Department of the Navy controls the quality of archaeological work and protects archaeological resources on Navy lands by issuance of archaeological excavation permits to qualified persons or entities intending to engage in such activities. An ARPA permit must be obtained prior to any excavation or removal of archaeological resources and prior to any actions associated with such excavation and/or removal of artifacts. Processing of applications for permits will ordinarily take 90 days from receipt of a completed application package. All application materials are available from the CRM or from the Department of the Navy, Southwest Division Naval Facilities Engineering Command, San Diego. A summary of ARPA compliance requirements is provided in Attachment D.

4.13.2.4 Section 106 Process

The first required step in cultural resources management is identification and evaluation of cultural properties subject to potential project impacts. A historic context is prepared if prehistoric or historic resources are discovered and must be evaluated. *National Register Bulletin Number 24* states that a "Historic context is a broad pattern of historical development in a community or its region, that may be represented by historic resources." The archaeologist must be able to assemble information through literature searches, existing contexts, and comparative data and evaluate newly discovered sites in light of what is known. A context must identify significant patterns that properties represent and define expected property types against which individual properties may be compared. Site significance needs to be evaluated in terms of a historic context that identifies place (geographic area), time (period of significance), and historical themes or research questions.

Site-specific contexts include time period of occupation, identification of occupants (origin, ethnic affiliation, sex, age, status, and occupation), and site function (activities that occurred there). Additional context can be established by assessing how a site fits into the broad regional themes. These can include prehistoric themes such as trade exchange, subsistence and settlement systems, and historic themes related to transportation, ranching, missions, community development, and the military. The historical context is used to generate research questions so that the data available from the site can be evaluated. The significance of historical archaeological data lies in its ability to address or augment aspects of past behavior not documented by the written record.

Resource identification and evaluation are conducted within research contexts that provide the criteria by which individual cultural properties can be assigned scientific or social significance. Those resources that do not meet the significance criteria will receive no further management treatment, except for possible construction monitoring. Resources determined to be significant are eligible for inclusion in the NRHP and are provided protection under several existing statutory and regulatory authorities. As such, these cultural properties would be historical properties.

The NHPA defines historic resource or historic property as:

> "…any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places; such term as artifacts, records, and remains which are related to such a district, site, building, structure, or object."

After NRHP-eligible properties have been identified, the nature and extent of impacts resulting from a project are determined, and a plan is developed for mitigating any adverse effects. Often impact avoidance through project redesign is not possible or practical, and alternative mitigation measures (rehabilitation, data recovery, and analysis) must be instituted. All alternatives to preservation in place cause some loss to the resource's integrity. Therefore, the nature of this loss and any data recovered through mitigation activities must be documented. On-site monitoring, the final step in the management process, is undertaken during project construction and possibly during operation.

The sequence of activities described above is referred to as the section 106 process (Figure 4-2). This process requires close coordination and frequent interaction between the CRM and the undertaking proponent. According to the NHPA, the California SHPO must review all undertakings and actions that have the potential to affect cultural resources on CPEN. CPEN enjoys an excellent relationship and productive interaction with the SHPO, which CPEN will seek to further. The point of contact between CPEN and the SHPO is the CRM. This chain of contact should continue in its current design.

The SHPO does not maintain records for CPEN and cultural resources information is provided to the SHPO on a case-by-case basis. Contact is via mail, telephone, and e-mail.

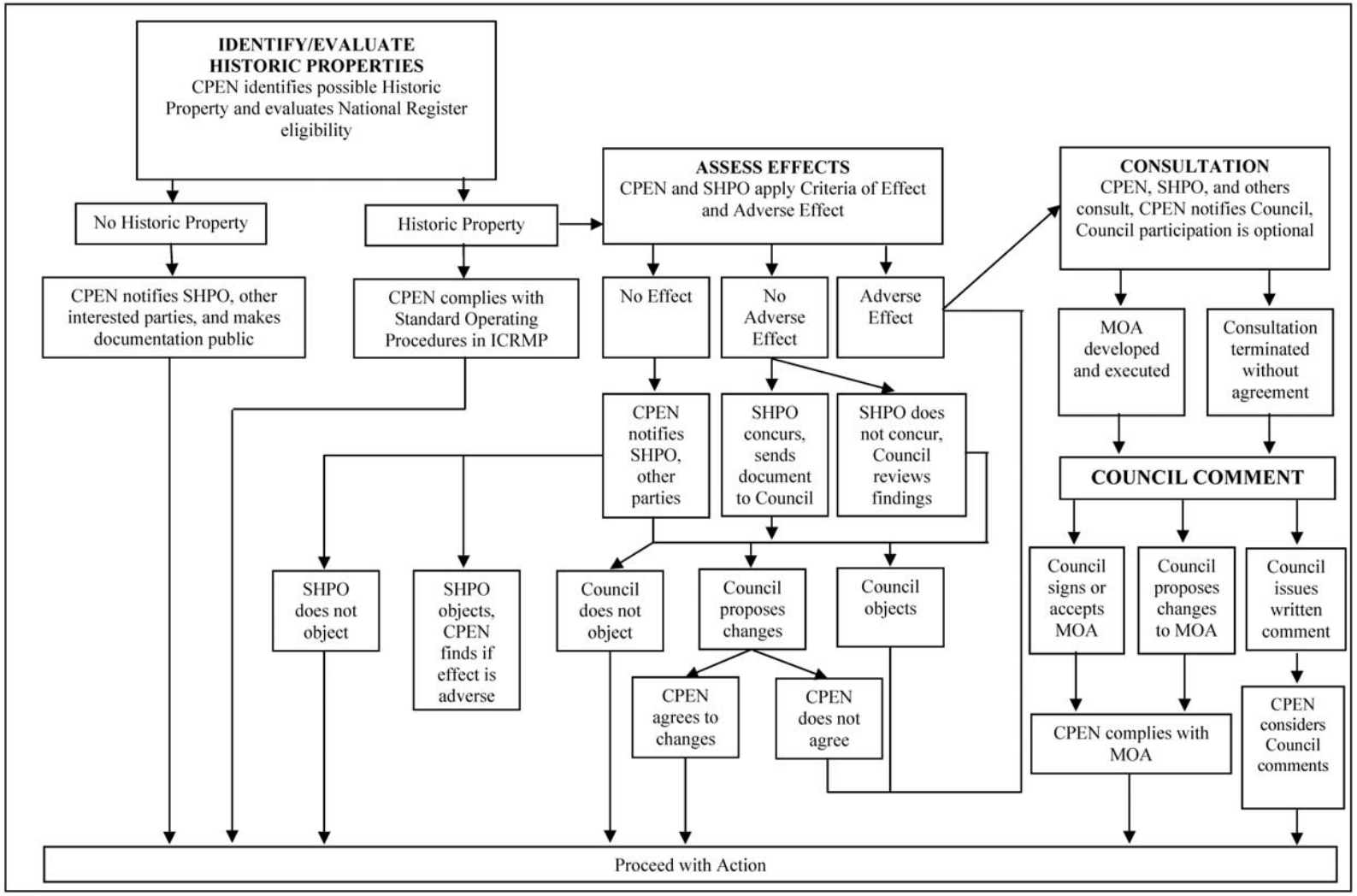


FIGURE 4-2. SECTION 106 COMPLIANCE FLOWCHART

CRM interaction with SHPO includes but is not limited to the following:

- Review work requests that may affect cultural resources.
- Identify projects that will not affect cultural resources and do not require consultation with the SHPO.
- Initiate consultation with the SHPO under section 106 of the NHPA on ways to mitigate the adverse effects of projects that will affect cultural resources.
- Provide information to project proponent/representative of consultation requirements and timeline.
- Foster productive partnerships with the SHPO.
- Negotiate memoranda of agreement (MOA) and PAs with the SHPO to protect, preserve, and manage CPEN cultural resources.

The ACHP is an independent federal agency created by the NHPA and is the major policy advisor to the government in the field of historic preservation. The ACHP is composed of 20 members who are private citizens and experts in the field of historic preservation. These individuals are appointed by the President along with federal agency heads and representatives of state, local, and tribal governments.

The ACHP provides a forum for influencing federal policy, programs, and decisions as they affect historic resources in communities and on public lands nationwide. The ACHP is also responsible for administering section 106 of the NHPA. Working with section 106, federal agency officials must consider the impact of their programs and projects on places of historic value. They incorporate ways to protect and enhance historic resources through their land-use planning, funding, and licensing actions. Federal agencies also consult with project proponents, members of the general public, state and local officials, and the ACHP to address adverse impacts on historic properties. The section 106 review process guarantees that state and local governments, Native American tribes, private citizens, and organizations will have meaningful involvement in federal project planning when proposed actions have the potential to affect historic resources.

Primary ACHP functions as directed by the NHPA include the following:

- Advocate full consideration of historic values in federal decision making.
- Oversee the section 106 review process and mediate in controversial cases.
- Review federal programs and policies to further the goal of preservation.
- Provide essential training, guidance, and public information to make the section 106 review process operate efficiently and with full opportunity for citizen involvement.
- Recommend administrative and legislative improvements for protecting the nation's heritage with due recognition of other national needs and priorities.

4.13.2.5 Undertaking Identification

Identifying and describing an undertaking, as defined in 36 CFR §800.16(y), is the first step in allowing the CRM to determine the nature of the potential impacts or effects of the project and determine the scope of investigations and data requirements. This step in the process is nearly identical to the NEPA process and proceeds concurrently.

4.13.2.6 Evaluation and Assessment of Undertaking

The CRM will evaluate and assess the available information to determine:

- the extent of information already available on known archaeological resources in or near the project area
- the nature of the cultural resources in or near the project area or the APE
- the nature and extent of anticipated impacts or effects on known resources
- additional data requirements necessary to complete inventory and determine effects on specific cultural resources

4.13.2.7 Native American Consultation

CPEN has completed two important ethnohistoric studies concerning the cultural affiliation of the history and relationships of native peoples to CPEN. These studies:

- Provide a factual basis for evaluating individual claims of relationships to historic properties and remains subject to NAGPRA.
- Support development of the Native American consultation procedures.
- Are a significant element in developing a PA to facilitate consultation with appropriate Native American tribes and religious leaders.

The ethnohistoric studies:

- tracked individuals and families from the time of European contact to about the 1840s through use of Mission records including the birth, marriage, and burial records
- used census records to track families and individuals up to the time that reservations were established by the federal government
- used standard census, school, and other available records for individuals and families not enrolled in recognized tribes
- reviewed California Indian enrollment records
- interviewed knowledgeable individuals of Native American descent (information regarding sacred sites was requested)
- reviewed ethnological records regarding sacred and significant cultural sites

CPEN will identify Native American issues and concerns through standard public participation techniques and established relationships of communication. CPEN will notify Native American groups of all proposed actions that may affect traditional religious or cultural practices. Each notification will be accompanied by a response form designed to facilitate communication.

4.13.2.8 Criteria of Effect

The criteria of effect to assess the potential adverse impacts that a project may have on cultural resources are specified in 36 CFR §800 “Protection of Historic and Cultural Properties.”

4.13.2.9 Categorical Exclusions

Consistent with 36 CFR §800.8(a) and §800.8(b), all CPEN actions categorically excluded under NEPA are reviewed by the CRM to determine if the action still qualifies as an undertaking requiring review per 36 CFR §800.3(a). If the undertaking involves ground disturbance in an area not previously inventoried for historic properties, an inventory and evaluation of historic properties will be completed in the APE before conducting the activity subject to the categorical exclusion. No historic properties inventory (e.g., archaeological survey) will be conducted if previous ground-disturbing activity has negated the validity of an inventory or CPEN determines that an area is unsafe due to the presence of hazardous materials or other conditions. If the APE of an undertaking has already been inventoried per the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 Federal Register 44716-44740), no additional inventory will be completed. Certain actions, by their nature, result in a low level of cultural resource impact that cannot be effectively prevented. Other categories may be added after concurrence by the SHPO. Categorical exclusions include:

- surveyors who are establishing coordinates for proposed construction-required, off-road travel to transport equipment
- road and street rehabilitation within an existing road or street footprint
- reconstruction, remodeling, or rehabilitation of non-historic buildings
- underground storage tank removal
- training activities that do not involve ground disturbance
- projects in areas previously archaeologically surveyed that contain no NRHP-eligible sites, if the survey meets current standards

4.13.2.10 Plan for Treatment

If NRHP-listed or NRHP-eligible cultural resources are identified, the AC/S ES will determine, with agreement of SHPO and tribal consultations, a plan for treatment of archaeological properties that includes avoidance and data recovery efforts, as necessary. Other treatment programs may be more appropriate to conform to ACHP *Treatment of Archaeological Properties: A Handbook* (ACHP 1980). Evaluation excavation may be necessary to improve information on site content, integrity, and depth prior to final determination of eligibility and approval of a treatment plan.

4.13.2.11 Recommended Treatment Coordination

AC/S ES will forward the recommended cultural resources treatment and accompanying documentation to the user or proponent. The choice of treatment will be determined in consultation with the user or proponent, since costs of data recovery must be balanced against costs of any project redesign that might be required to achieve avoidance.

4.13.2.12 Agreement of Selected Treatment

Once the user and AC/S ES agree on the appropriate treatment, the SHPO will be informed and concurrence requested. Upon receipt of concurrence, the user/proponent will be informed for funding and procurement of the appropriate services.

4.13.2.13 Completion of the Approved Treatment Plan

After satisfactory completion of the approved treatment plan, AC/S ES will notify SHPO and request concurrence as to the success of the treatment plan. With SHPO concurrence, the proponent's responsibility for cultural and historic preservation is completed for the proposed undertaking.

4.13.2.14 Concurrence

If CPEN and the SHPO fail to concur at any point in the process, CPEN and the undertaking proponent will:

- Suspend any action that may result in an adverse effect on an NRHP listed or eligible property.
- Suspend any action that prohibits looking at alternative ways to reduce adverse impacts.
- Consult with the ACHP to resolve the objection.

4.13.2.15 Resolution of Disagreement

If CPEN and the SHPO cannot resolve the disagreement through consultation, CPEN will:

- Submit a preliminary case report and other information to the ACHP for comment.
- Take into account the recommendations of the ACHP in developing the final mitigation plan or document.

4.13.2.16 Cooperative Research Agreements

CPEN may, from time to time, enter into cooperative research agreements with academic institutions and private researchers for cultural resources investigations on CPEN. This work will be undertaken using an approved cooperative research agreement that defines the study, the issues involved, staffing qualification, support to be supplied by CPEN, deliverables, and deliverable schedules. SHPO will be requested to concur with the undertaking as described in the CRA. The research will be considered as it applies to CPEN's mission to train Marines.

4.14 ARCHAEOLOGICAL RESOURCES

Management of cultural resources at CPEN includes the completion of a variety of standard archaeological practices. The CRM has oversight responsibilities for these work efforts. Standard practices for completing the most typical archaeological techniques are provided below. Archaeological studies take place in compliance with sections 106 and 110.

4.14.1 Identification of Cultural Resources

An archaeological inventory provides the primary means to identify and gather data on prehistoric and historic resources. It includes the use of field survey and archival research to determine if resources are located in a specific area, and then compiles the collected data into a meaningful body of information. The inventory identifies properties that require evaluation to determine if they meet the criteria for nomination to the NRHP. CPEN is undertaking base-wide surveys for two purposes: (1) support of

proposed undertakings (section 106 compliance), and (2) data gathering to compile resource maps for the entire base (section 110 compliance).

The goals of archaeological survey at CPEN are to generate recommendations as to potential NRHP eligibility; to more clearly define the variability, density, and topographic/environmental association of prehistoric and historic sites within a study area; to assess site variability, redundancy of site types, and frequency of occurrence; to identify high, medium, and low sensitivity areas for surface and buried sites; and to formulate hypotheses for predicting site locations that can be subsequently tested. Investigations of prehistoric and historic use of the region must be accomplished in a systematic, research-based manner.

The archaeological survey must be specific in detail. Each survey must be preceded by a study design, which should be scaled to the size of the project. A study design for a survey of a bivouac area might consist of a records search and a paragraph of inventory expectations. An inventory for a training area or major undertaking will include the results of a background records search, reference to existing contexts, NRHP listings, existing ethnographic data, expectations for the survey, and a project schedule. In either case, the study design is not intended to be a complex document, but rather to focus fieldwork and archival research in a manner that meets the Secretary of the Interior's standards and guidelines. This approach assures that the archaeologist conducting the survey can establish expectations regarding what could be found in the APE and what may be considered significant.

4.14.2 Implementing the Study Design

The pragmatics of implementing a study design are presented below. An example of a recommended study design is provided in Attachment E. This includes constructing a geotopographical classification of CPEN and a preliminary assessment of the archaeological sensitivity of particular geotopographical subunits. The development of this approach is based on the results of previous studies for CPEN, pertinent regional information, and the need to guide research with a cohesive research plan. Pertinent information should be shared with contractors involved with archaeological projects in order to establish a starting point for the type of research that is expected.

4.14.3 Geotopographic Classification

The archaeological sampling universe of CPEN contains more than 125,000 acres of land. In general, CPEN is typified by relatively narrow, flat coastal terraces cut by drainages, and rolling hills, leading to the rugged highlands of the Santa Margarita Mountains, directly northeast of the base. The base is dissected by a series of drainage systems, both large and small, that generally flow from northeast to southwest. Overall, the northern portion of the base is of higher elevation, and includes extensive areas of rugged hillside. In contrast, more moderately sloping areas occur in the southeast portion of the base. A noteworthy aspect of CPEN’s topography is the presence of a narrow, almost independent range of hills that closely parallel the coast. This range begins on the north almost immediately adjacent to the coastline at the mouth of the San Onofre and San Mateo creeks and runs southeast, creating a wider coastal terrace as one heads south, and finally terminates near the Santa Margarita River. These hills are a maximum of 4 miles in width, reach a maximum elevation of 1,725 feet amsl at San Onofre Mountain, and generally decline in maximum elevation as they extend southward. San Onofre Creek wraps around the northeast side of these hills until they merge with the hills that extend southward from the northern portion of the base.

CPEN can be divided into a series of geotopographic units to ensure sampling within a variety of environmental regimes. The selection of sampling strata can be determined through evaluation of biological, geological, and topographic variables derived from geological and topographic maps from which aspects of vegetation, hydrology, and terrain can be inferred. This allows subsequent archaeological modeling to focus on specific culturally relevant settlement zones without producing a biased sample. At present, the understanding of culturally relevant environmental variability is somewhat limited for the region, but previous field investigations on CPEN and adjacent areas provide a basis for preliminary sample stratification and provide insights on how site types and occurrences may vary between geotopographic areas. This initial, rather coarse-grained classification of CPEN provides a pragmatic structure based on geological and geographic aspects of the landscape.

With the application of this classification, a series of predictions can be made regarding site densities and archaeological sensitivity for different geotopographic units based on previous surveys, and this can guide recommendations regarding the areal focus of archaeological surveys. It is important to keep in mind that this is not an archaeological model designed to reconstruct settlement and subsistence systems. The construction of such a model is a subsequent step in the process that will entail integrating the distribution of particular types of sites with the co-occurrence of specific paleoenvironmental features, such as resource zones.

There are a number of ways that the base can be subdivided geographically. The most useful for archaeological research purposes is to divide it into catchment systems, with each drainage system constituting a single catchment, and the crests of adjacent hills and mountains constituting the boundaries between catchments. This classification creates a series of distinct geotopographic units, and allows subsequent archaeological research to focus on issues of importance to regional archaeological research. The catchment system approach to the geographical subdivision of CPEN entails the reconstruction of regional catchment systems, particularly how they vary from one drainage system to the next, how they differ throughout the entire length of a single catchment, and how they evolved over time (True 1993, True and Waugh 1982, Vanderpot et al. 1993). Adequate understanding of this topic requires the collection and evaluation of available archaeological and paleoenvironmental data. This drainage catchment system of classification essentially creates a series of longitudinal geotopographic units of varying lengths and widths (from north to south), running parallel to each other and perpendicular to the ocean.

The drainages (inclusive of their tributaries) within CPEN can be categorized as large, medium, or small based on the area of their catchment. San Mateo Creek, San Onofre Creek, and the Santa Margarita River represent the three large drainages (see Figure 1-2). Tributaries of the San Mateo Creek include Cristianitos Creek and Talega Canyon. San Onofre Creek is composed of four major subdivisions: Jardine Canyon, North Fork, Central Fork, and South Fork. The Santa Margarita River comprises one major tributary (De Luz Creek) along with a series of small tributaries including Pueblitos Canyon and Wood Canyon. Medium-sized drainages include Las Pulgas Canyon (including its tributary Piedra de Lumbre Canyon), Aliso Canyon, Windmill Canyon, and Pilgrim Creek. The latter two are tributaries of the San Luis Rey River which lies directly south of the base. Smaller drainages include Foley Canyon, Horno Canyon, Cockleburr Canyon, French Canyon, Tuley Canyon, and a series of unnamed drainages that lie within the near coastal hills and form alluvial fans on the adjacent coastal terraces (Waters 1996a).

Each of these catchments can then be sectioned into a series of geological subunits. The construction of subunits allows greater insight into how archaeological sites are distributed between specific aspects of the landscape, and to better define areas predicted to be of high, medium, and low sensitivity in terms of prehistoric site densities. These subunits include marine coastal terraces, alluvial deposits on valley floors, moderately sloping inland hills, and steep inland hills.

The coastal marine terraces extend from the shoreline to the adjacent inland hillsides. They reach a maximum width of 2.5 miles and a minimum width of 0.5 mile wide (particularly at the northern end of the base). At least five marine terraces of varying Pleistocene ages occur on the base (Kern 1995).

The valley floor alluvial deposits are composed of alluvial terraces and alluvial fans of Pleistocene and Holocene ages (Waters 1996a). Alluvial terrace deposits extend inland from the shoreline for varying distances and widths depending on the scale of the drainage under consideration and the nature of the local topography. Alluvial fan deposits tend to be more restricted in scale, rarely reach the ocean, and form at the mouths of smaller drainages that have insufficient water flow to cut a channel to the ocean. Alluvial fans and terraces are ideal settings for archaeological sites and are also the primary locality for buried sites. The mapping, modeling, and monitoring of these terraces are considered integral and pivotal aspects of this type of sampling project.

Moderately sloping inland hills include colluvial and bedrock areas with 0–30 degree slopes. They are composed of colluvial and bedrock hills, flat bedrock benches, and saddles. These moderately sloping hills occur in three main settings: on the southwest facing slopes of the coastal hills, directly abutting the coastal marine terraces; in inland settings adjacent to the alluvial deposits of valley floors; and in the highland areas of the northern edge of the base. Inland moderately sloping hills are most extensive adjacent to San Onofre Creek (particularly the central and southern forks), Las Pulgas Canyon, Aliso Canyon, and the Santa Margarita River. Only two highland areas have extensive moderately sloping open areas: the rolling hills immediately adjacent to Case Springs, and the De Luz Wilderness area, east of De Luz Canyon.

Steeply sloping hill areas are those with slopes greater than 30 degrees. Steep, rugged hills occur in the near coastal range of hills and also dominate the northern portion of CPEN. An example of such colluvial and bedrock areas is the hillsides immediately adjacent to Talega Canyon.

This geotopographic classification allows the various catchment systems to be subdivided into four main subclassifications. During subsequent archaeological modeling of settlement and subsistence patterns, more discriminating correlations can be made, which take into account a variety of landscape attributes important to prehistoric cultural systems. Major archaeological resources are predicted to be non-randomly distributed along the length of larger drainages. For example, occupation of the moderately sloping area of Case Springs will have different implications than sites on moderately sloping hills directly adjacent to the coastal terraces. For this reason, it is important that archaeological survey research concentrate on reconstructing entire catchment systems. This should include the coastal area, inland valleys, and highland settings.

4.14.4 Archaeological Sensitivity

The geotopographic units within CPEN can be grouped into high, moderate, low, and unknown sensitivity with respect to the potential distribution, preservation, and significance of archaeological sites. This preliminary sensitivity determination is based on the known distribution of archaeological sites from previous surveys, preliminary geomorphological investigations at the mouth of several drainages (Waters 1996a), and the potential for the discovery of additional sites in similar settings based on these results and general knowledge of coastal southern California archaeological patterns. This classification should be considered preliminary and subject to revision and refinement as more surveys are conducted and the knowledge of local settlement systems increases.

The highest sensitivity areas, based on previous work, include the alluvial areas of the drainages, and the entire coastal terrace. Alluvial terraces and alluvial fans within all drainage sizes have the highest probability of having significant, well-preserved archaeological sites. Such sites include those with surface indicators and also buried archaeological sites that lack surface indicators (Byrd et al. 1995, Byrd 1996, Reddy et al. 1996). Large coastal shell middens and inland habitation sites occur in alluvial settings on CPEN. At present, these sites are best documented within 3 miles of the coastline and in the Santa Margarita River Valley (Bull 1975, Byrd et al. 1995, Byrd 1996, Reddy et al. 1996, Schroth 1995, Welch 1978). These sites, which often have human burials, have been documented in alluvial contexts near the mouth of San Mateo Creek, Horno Canyon, and Las Pulgas Creek (Byrd et al. 1996). Limited survey of inland portions along San Mateo Creek has revealed the potential for large habitation sites in alluvial contexts (Apple and Cleland 1994). The coastal terraces, owing to their juxtaposition with the rich littoral zone and close proximity to drainage systems, have yielded some of the largest and most significant archaeological sites in the region (Bull 1975, Byrd et al. 1995, Byrd 1996a, Reddy 1996, Welch 1978). It is important to note that these sites are often clustered along drainage margins.

Moderately sloping hilly areas are classified as being of medium sensitivity with respect to the potential distribution and preservation of archaeological sites. A range of site types occur in these colluvial and bedrock settings. Such settings, particularly areas near drainage systems, are ideally suited for habitation sites of various duration and size. Inland processing sites (especially with bedrock milling) and procurement localities are also included in this category. Previous surveys have documented such sites within the inland catchments of Aliso Creek (Murray and Fenenga 1981), San Mateo Creek (Apple and Cleland 1994, Ezell and Theskin 1987), and Santa Margarita River drainages (Murray and Fenenga 1981, Schroth 1995). They are also well-documented within the highland areas of Case Springs and the DeLuz wilderness (Waldron 1978).

Steeply sloping hill areas are considered to have low sensitivity for archaeological sites. These areas are considered least likely for human habitation, except for possible bedrock milling outcrops and rock shelters. Previous surveys in such areas have yielded only occasional archaeological sites, along with a considerable number of isolated artifacts (Apple and Cleland 1995, Ezell and Theskin 1987).

The near-shore marine area of CPEN is considered to be of unknown sensitivity for archaeological sites. There has never been a survey for underwater prehistoric sites along this margin. There is considerable potential for sites predating 4000 BP to be preserved in this area, given their presence in similar contexts elsewhere in San Diego County (Masters 1983).

4.14.5 Survey Methods

The preferred approach is to have the entire CPEN intensively covered on foot to locate all archaeological site loci. Standard archaeological field methods should be used, conforming to minimum standards as defined in McGimsey and Davis (1977) and the *Secretary of the Interior's Standards and Guidelines on Archaeology and Historic Preservation* (NPS 1983).

The level of survey intensity will be adequate to identify numbers and types of archaeological sites through the use of intensive parallel transects with intervals not to exceed 15 m. Transects are oriented by use of compass bearings. The outside line of each set of transects is to be marked with biodegradable flagging. In areas of direct undertaking impact, the transect intervals will be no greater than 10 m, as appropriate. Dense vegetation can be a hindrance to adequate surveys. CPEN has a method of survey in dense vegetation that must be followed.

4.14.5.1 Survey Coverage in Dense Vegetation

In areas of dense vegetation a modified approach is required. The specific survey approach will be determined in coordination with the CRM. Currently, CPEN uses a method of clearing vegetation in a controlled manner to reveal archaeological sites in areas where vegetation restricts visibility to less than 10% of the ground surface. Areas of dense vegetation coverage are established during standard field survey. Once these areas are plotted on a base map, vegetation clearing survey can be coordinated with the CRM and the CPEN Natural Resources team. The methods should include the following:

- Conduct standard survey transects and identify areas of dense vegetation that affect the ability to readily identify surface manifestations of archaeological sites.
- Clear a series of 5 m squares using shovel scraping and raking of all vegetation. Each square is to be not less than 25 m or greater than 30 m from its nearest neighbor. The cleared squares can be established on a grid pattern or on a linear pattern, depending on the size and configuration of the overgrown area.
- When cultural material is found within a cleared square, the material is to be dealt with in the same manner as material found during a traditional survey.

4.14.6 Subsurface Survey

Limited subsurface surveys may be carried out as specified within the survey study design. The purpose of the subsurface work will be to identify site boundaries in areas of dense vegetation. Once a site is located by vegetation clearing, subsurface survey techniques should be employed. This will aid the identification of the site and limit the amount of vegetation that is disturbed. Limited STPs are to be used. STPs are small excavations, less than 50 centimeters (cm) on a side. In general, these STPs will be placed at systematic intervals of 20 m along linear transects in areas where there is poor surface visibility, but where there is a good chance of encountering buried cultural deposits. The soil recovered from the STPs will be screened through a 1/8-inch wire mesh screen to find artifacts or other evidence of cultural activity. The locations, depths, and contents of the subsurface survey units will be documented and used in subsequent resource evaluation.

4.14.7 Small, Sparse Scatter Sites

Small, sparse scatter sites are sites that have no discernible subsurface deposit and:

- contain only flaked-stone or only shellfish remains
- exhibit surface densities equal to or less than three flaked-stone items or three shells per square meter and do not exceed 25 items over the entire surface of the site
- are not larger than 80 m^2

These sites should be evaluated during the survey by using the following methods:

- The study design will include a discussion of small, sparse scatter sites and of the data to be retrieved.
- The site will be accurately mapped with boundaries displayed on the map and global positioning system (GPS) coordinates indicated.
- All artifact or shell locations will be displayed on the map.

- STPs will be excavated on an X/Y axis and spaced 10 m apart. The recovered soil will be screened through 1/8-inch mesh screens. The purpose is to ensure that there is no subsurface deposit on the site.
- The artifacts or shell will be catalogued and treated as described below.
- The site will be recorded on appropriate DPR site forms.
- The site will be described in the survey report. The artifacts or shell will be presented in a tabular format.

4.14.8 Site Recording

All sites shall be documented in accordance with guidelines set forth in the California Office of Historic Preservation (1993) *Instructions for Recording Historical Resources.* Each newly located site will be assigned a temporary number. Temporary numbers are alpha-numeric binomials comprised of the survey area name and the sequential number for all sites identified within a survey area (e.g., Papa One-1, Bravo One-2, etc.). Acquisition of permanent California Archaeological Survey site trinomials (e.g., CA-SDI-____) is the responsibility of the contractor, with copies of all final records provided to CPEN.

Each relocated and newly located site will be mapped by use of a GPS. A site datum will be established by use of GPS coordinates. No above ground stakes will be used to mark a site area. GPS accuracy will be 5 m or less.

General base maps shall be prepared for all coverages as follows:

- All newly located sites will be plotted as temporary-numbered, scaled, areally-representative, colored or shaded curvilinear figures on the associated US Geological Survey (USGS) 7.5-minute quadrangle base maps. GPS coordinates will be supplied as Universal Transverse Mercators (UTM) on the maps and on electronic medium (the GPS accuracy must be submeter).
- All mapping will be done with reference to a permanent datum. Datum locations will be plotted on a base map using GPS-generated UTM coordinates. All datum stakes must be driven flush to the ground surface. Site boundaries, separate loci, and features are to be identified and plotted on the site base map. As part of the mapping process, photographs will be taken to record the site elements and any internal features.
- Exact survey coverage, including areas not surveyed due to intuitive exclusion or physical constraints will be indicated by color on the maps. Rationale for excluding coverage and/or descriptions of physical survey constraints shall be included as part of the final report.
- Final maps will be GIS computer-generated with printed color/shading and will be compatible with the ArchInfo system used by AC/S ES. Isolated artifacts between sites within the survey areas do not constitute recordable loci, but may be noted on field maps as keyed symbols.

4.14.9 Submission Format

Final submission documents should be on laser-printed DPR-523 forms, and on compact discs or memory sticks/devices using the database forms (Attachment F).

Compact discs (or other memory devices) shall be prepared as follows:

- Formatted with the most current version of Microsoft Word.
- The sequence of each compact disc (if more than one disc is used) should be marked on the external label.
- The first disc will include an ASCII text file labeled README. The README file will describe the total number of discs and the content of each disc (e.g., file names, file content).

4.14.10 Reporting

The survey report will meet format and content standards defined in relevant sections of the Secretary of the Interior's standards and guidelines for cultural resources (Federal Register 48). The report must include explicit discussion of survey location, survey methods, survey intensity, surface variability, historical documentation, and persons interviewed. If any procedure varies during the course of a project, the reasons for the variation should be illustrated on a map. Any deviations from the ICRMP should be described in detail and justified. Maps showing site locations and survey boundaries should be on USGS 1:24,000 topographic maps and CPEN training maps. All maps supporting the DPR site forms are to be included in the report. The report will describe the study design and the archaeological findings in the context of the design. Evaluation of requirements to determine site significance and NRHP eligibility are to be included in the report.

4.15 EVALUATION OF CULTURAL RESOURCES

The following sections describe the procedures and methods that are to be used to evaluate existing and future archaeological and historic structures at CPEN.

4.15.1 Evaluation Procedure

The ICRMP is designed to help base personnel protect NRHP-eligible cultural resources at CPEN from unacceptable damage. If practical, impact area boundaries should be designed to avoid cultural resources. If avoidance is not feasible and if NRHP-eligible cultural resources will be affected, the effects on those resources will be evaluated to determine the appropriate treatment. Evaluation methods may differ for prehistoric archaeological sites, historic archaeological sites, and historic structures. General archaeological methods are presented in the following section. The CRM must approve variations from these methods. Disagreements between the archaeological contractor or project proponent and the AC/S ES office concerning methods can be submitted to the SHPO for resolution.

4.15.2 Archaeological Sites

All archaeological sites identified within an impact area will be evaluated for eligibility for inclusion to the NRHP. Parts of sites that extend outside of the impact area will also be evaluated, but not as intensively. Sites will be evaluated to determine:

- eligibility to the NRHP
- site type and integrity so that an appropriate treatment program can be developed

- the horizontal and vertical subsurface extent of the site as well as some information about internal variability, in order to provide information sufficient for the development of site-specific treatment plans

The evaluation program for archaeological sites includes surface collection and subsurface testing.

4.15.3 Surface Collection

All artifacts on the surface of a site being evaluated should be mapped, and artifacts inside the impact area should be mapped and collected. The purpose of this procedure is to obtain spatial information about the distribution of cultural material on the site. The most reliable means to record this data is by a point-provenience method, using either a GPS or a total station. If the site has more than 150 surface items to be point-provenienced, a grid system can be employed in such a way that all cultural material within each grid square is collected and labeled using the grid coordinates of the particular square. The maximum size of the grid square to be used for this method of surface collection is 2 m × 2m (4 m^2). If a larger unit is to be used, approval from the CRM is necessary. If the overall artifact density on the surface of a site is greater than two items per square meter, a 25% systematic, unaligned sample can be taken. The systematic, unaligned design is easily implemented in the field. However, other sampling designs for the surface collection of high-density artifact scatters may be considered, based on the particular characteristics of the site and the goal of the collection program.

4.15.4 Remote Sensing

Electromagnetic remote-sensing equipment, such as magnetometers and terrain conductivity meters, have been successfully used to locate subsurface features in archaeological sites. Ground penetrating radar (GPR) is a useful tool for locating subsurface archaeological features in areas of sandy and clay matrix soil. Remote sensing techniques should be used to locate subsurface features where conditions are appropriate.

4.15.5 Subsurface Testing

Within the area of impact, STPs should be excavated to determine site boundaries and the nature of the internal distribution and structure of subsurface deposits. The STPs should be excavated 10 m apart on a grid pattern on sites of less than 1,500 m^2. Sites larger than 1,500 m^2 will use 20 m spacing for the STPs. The STPs will measure 40 cm × 40 cm in dimension and will be excavated until at least 20 cm of sterile soil or sand is reached. All soil will be screened through 1/8-inch wire mesh screen. All cultural material will be collected, bagged, labeled, and catalogued. STP forms will be filled out detailing provenience, artifact recovery, soil description (including Munsell color), depth, and observation notes. Each probe will be identified on a site map and all STPs will be backfilled.

If a site extends outside the area of impact, STPs will be excavated at 20 m intervals along an X/Y axis in order to characterize the site's spatial variability for data recovery planning and NRHP-eligibility determination. These evaluation programs are not data recovery, but are planning tools for significance determinations that are intended to guide preservation or data recovery efforts. Excavation standards for the subsurface testing of archaeological sites are provided in Attachment G.

4.15.6 Excavation Testing

Based on the results of STPs, test units should be excavated within the APE to quantify the presence of archaeological data appropriate to meet the criteria for NRHP eligibility, and for the recovery of appropriate carbon-source samples for carbon 14 (^{14}C) dating. Determination of where and whether to test excavate the deposit at a site will be based on an assessment of observed surface and/or STP data for the locations of appropriate subsurface cultural materials.

Only one 1 m × 0.5 m test unit should be excavated in small-size (< 180 m^2) sites or discrete site loci. Two test units will be excavated, as required by condition of the sites or site loci with moderate sized areas (up to 750 m^2). Larger sites or site loci (> 750 m^2) may have up to four test units excavated, as determined by the site characteristics. The total number of excavation test units will be guided by the study design, but will not exceed an overall total of 24.

Test units will be excavated using standard archaeological excavation methods (e.g., Hester et al. 1975, McGimsey and Davis 1977). Test units will be excavated to sterile soil in 10 cm arbitrary levels, and the sediment shall be screened through 1/8-inch wire mesh screen. Test excavation documentation will include description of each level excavated, including all appropriate provenience data, an itemization of all associated artifacts, attached soil sample for later Munsell color identification, and a sketch of unit level features. At least one profile of each excavated unit shall be recorded. Test unit forms will be completed detailing provenience, artifact recovery, soil description (including Munsell color), depth, and observation notes. Each unit will be identified on a base map and all units will be backfilled.

4.15.7 Trenching

Shovel trenching is a technique that can be useful in identifying small concentrations of buried material. This involves hand-excavating trenches with a square-nosed shovel. The trenches can be excavated in 20 cm levels, measure approximately 3 m × 40 cm, and are excavated until sterile soil is encountered. All soil spoil is screened through 1/8-inch wire mesh screen. Each trench will be plotted on a site base map. Trench forms will be filled out detailing provenience, artifact recovery, soil description (including Munsell color), depth, and observation notes. Each unit location will be noted on a site base map and all trenches will be backfilled.

Mechanical trenching can be used to establish stratigraphic relationships between sites, to characterize geomorphological structure of a site, or to provide access to deeply buried cultural deposits that cannot be tested manually. Mechanical trenching should be used sparingly because of its destructive potential. Vertical profiles exposed during trenching will be mapped, photographed, and described to provide a permanent record of the stratigraphy.

4.15.8 Archaeological Site Significance and Treatment Planning

Site significance and treatment planning is handled per Appendix C of the *Secretary of the Interior's Guidelines for Documentation* to aid the evaluation of each site that is discovered and tested for significance. The form can only be used on sites at which adequate pre-field, site-specific context research has been completed and for which archaeological testing has been completed.

If the site is determined to be significant and eligible for inclusion on the NRHP and if a proposed undertaking will have an adverse effect on the site, then a treatment plan will be developed. The

treatment plan will detail the undertaking, significance of the site(s), level of impact to the site by the undertaking, and means to mitigate the impact.

4.16 TREATMENT OF CULTURAL RESOURCES

The following sections provide the procedures and methods that will be used in the treatment of archaeological sites at CPEN. Prior to any treatment of prehistoric or historic sites, a treatment plan must be developed.

4.16.1 Archaeological Sites

The recommended treatment for NRHP-eligible archaeological sites is avoidance and preservation. If that alternative is not practical, then data recovery must be undertaken for all NRHP-eligible and potentially eligible sites.

4.16.2 Preservation / Avoidance

Regardless of the means chosen to preserve or avoid an NRHP-eligible site, a treatment plan for preservation/avoidance will be prepared. The plan will be submitted to the CRM prior to implementation. The CRM will review the treatment plan and, upon approval, submit it to the SHPO for review and concurrence. The treatment plan must include:

- project description and APE
- site description
- previous archaeological investigations at the site
- description of natural environment
- cultural setting (reference CPEN cultural history)
- detailed description of the actions to preserve, protect, and avoid the archaeological site
- project schedule

Sites to be avoided and preserved must be protected during construction. If construction is planned adjacent to a site that is being preserved, care must be taken to avoid impacts from borrow pits, haul roads, fill stockpiling, and heavy equipment storage areas. The construction contractor will be required to erect a temporary fence around the site to protect it during construction. This work is coordinated with the CRM.

Since fencing a site, as well as evaluation and data recovery tasks performed by archaeologists, may call attention to the presence of an archaeological site, contractor and installation personnel must be warned against unauthorized removal of cultural material from an archaeological site. Such a removal is a violation of federal law under ARPA. If a site is to be avoided during training exercises, a number of steps need to be taken. The site will be highlighted in CPEN Environmental Operations Map as a sensitive natural resource to be avoided. The site will be excluded from digging activities, such as the creation of fighting units, and use by tracked vehicles.

4.16.3 Data Recovery

If an NRHP-eligible archaeological site cannot be avoided, mitigation of impacts can be accomplished through data recovery (Figure 4-3). Prior to conducting an archaeological excavation, a treatment plan for data recovery must be prepared. The plan will be submitted to the CRM prior to implementation. The CRM will review the treatment plan and, upon approval, submit it to the SHPO for review and concurrence. The treatment plan must include:

- project description and APE
- site description
- previous archaeological investigations at the site
- natural environment
- cultural setting (reference CPEN cultural history)
- study design (reference CPEN study questions or propose new questions)
- sampling design and data recovery procedures
- laboratory methods
- discovery plan for burial and burial-associated artifacts
- project schedule

The goal of a data recovery plan is to recover a sample of the data in the site so that information relevant to study questions is preserved and research goals may be furthered. If only a portion of the site is within the impact area, data will be removed from only that portion. Data recovery efforts are preceded by evaluation of a site in accordance with the procedure presented earlier. The evaluation procedures help define the site type, size, depth, and the internal distribution of cultural material, and guide the data recovery approach and direction.

4.16.4 Standards for Data Collection, Analyses, and Report Preparation for Evaluation and Data Recovery

Data collected during evaluation and data recovery typically include all major categories of archaeological data. The minimum data that are typically collected include artifacts, ecofacts, ^{14}C samples, and soil samples for macrobotanical and pollen studies, as follows:

- ***Artifact Data***. All artifact materials (e.g., flaked tools, lithic debitage, etc.) collected during data recovery will be bagged and recorded by site, unit, and level.
- ***Ecofact Data***. The presence and abundance of ecofact data (e.g., marine shell, bone, carbonized seeds, etc.) appropriate to addressing research questions important to NRHP-eligibility status will be documented during fieldwork. These materials will be recovered as described in the approved project study design.
- ***^{14}C Samples***. As available, an adequate number of carbon-source samples should be collected from subsurface contexts with integrity and limited post-depositional disturbance.
- ***Soil Samples.*** Soil will be collected in the appropriate manner for macrobotanical and pollen studies. The methods and specific protocols will be identified in the work plan or study design.

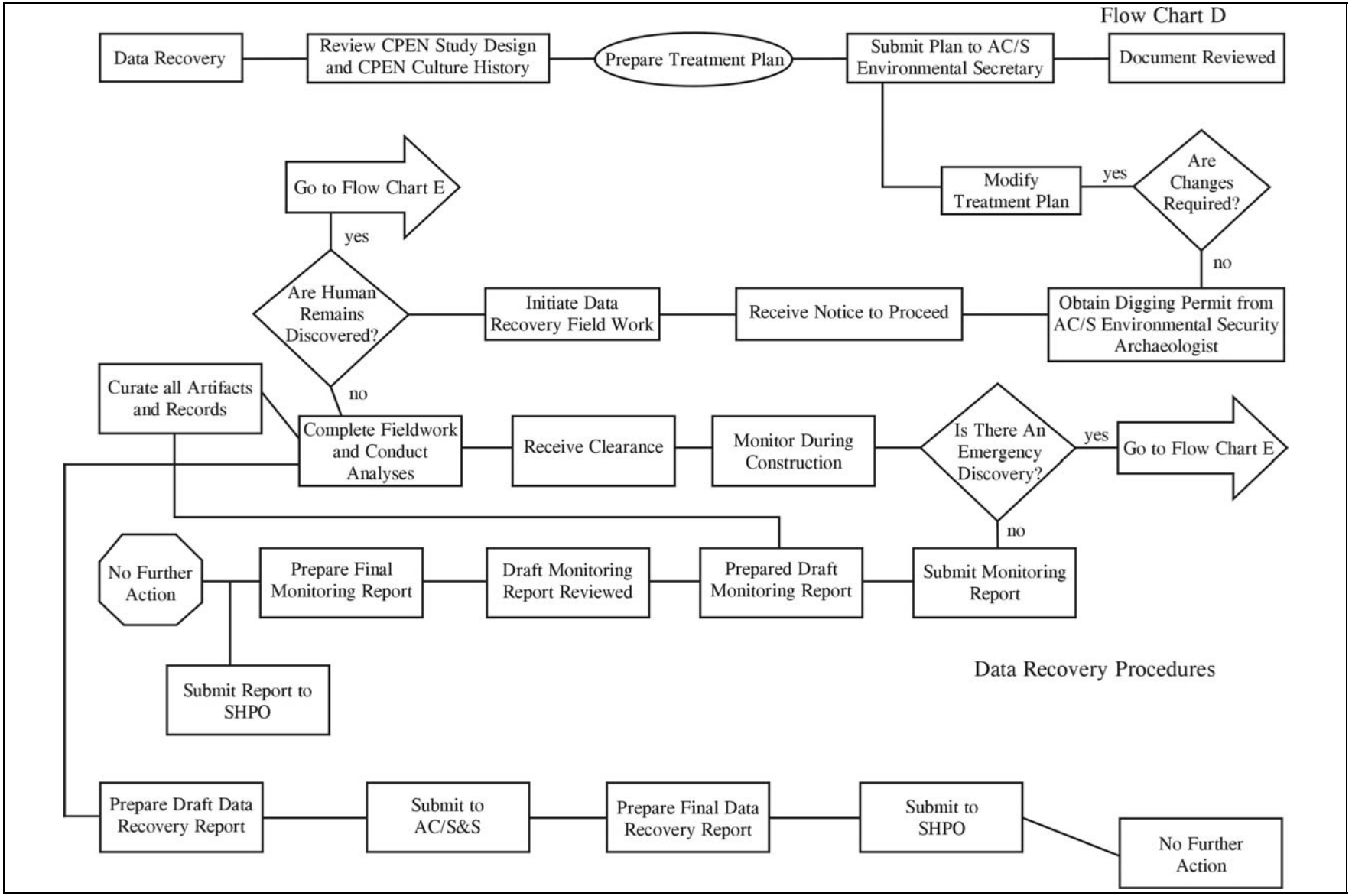


FIGURE 4-3. DATA RECOVERY PROCEDURES FLOWCHART

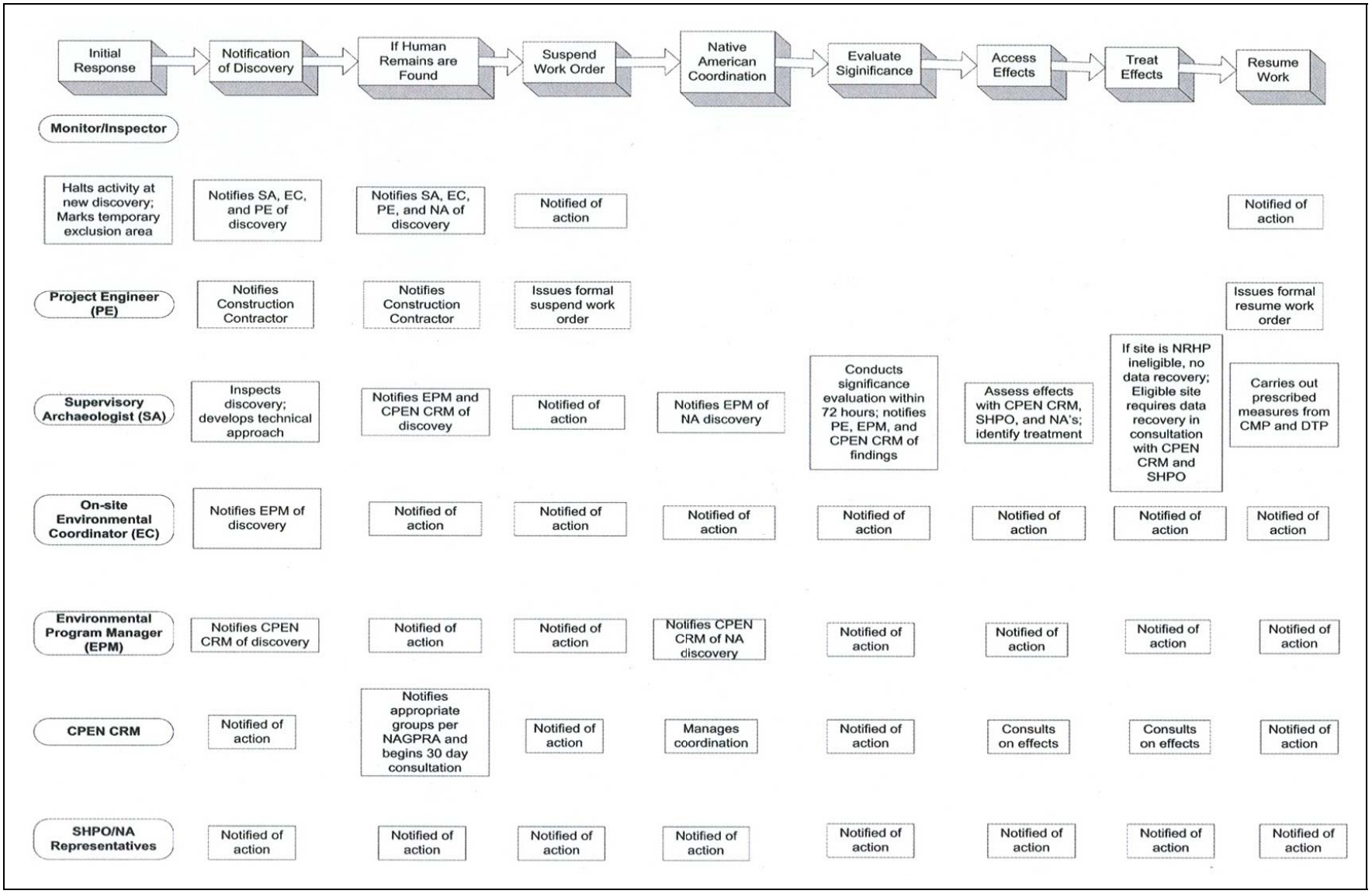


FIGURE 4-4. EMERGENCY DISCOVERY PROCEDURES FLOWCHART (FLOWCHART E)

The procedures to be used in the initial processing of recovered material include cleaning (as appropriate), sorting, and cataloging of all items. All items will be individually examined and cataloged according to class, type, and material. The items will be counted (except for bulk invertebrate and vertebrate remains) and weighed on a digital scale. Very large items, such as oversize ground stone, should be weighed on an appropriate scale. All coded data should be entered into a database program to facilitate data manipulation for analyses. A detailed catalog instruction and dictionary should be included with the final site report.

There are many methods for cataloging archaeological data. The methods that are used should be presented in the treatment plan or the work plan that is approved by the CRM. Variation from the approved design must be approved prior to implementation. The approach used should be clearly described and coding instructions and dictionaries provided as a report attachment. One typical approach is as follows.

The cultural material will be sorted during cataloging into the following categories: classes of prehistoric artifacts, classes of ecofacts, ethnohistoric items, historic and modern items, and other classes of samples. The prehistoric artifact classes will include flaked-stone artifacts, ground stone artifacts, percussing tools, ceramics, bone artifacts, shell artifacts, and miscellaneous items. Flaked-stone artifacts include debitage, cores, utilized flakes, unifacially and bifacially retouched stone tools. Debitage, including both flakes and angular debris, will be sorted by material type and cortical variation (primary, secondary, and interior) during cataloging and should be coded in a separate database. The classification of flaked-stone tools will be determined by the type and technology of modification. Utilized flakes will be identified based on the presence of macroscopic use-wear. Unifacially retouched tools include scrapers and other unifacially retouched pieces. Length, width, and thickness measurements will be taken on complete or nearly complete unifacially or bifacially retouched tools using a digital caliper and a metric scale. Percussing tools, including hammers, choppers, and abraders, are defined based on their morphology and the type of macroscopic use-wear they exhibit. Ground stone artifacts will be classified as to type, including manos, metates, pestles, and mortars or stone bowls. Length, width, and thickness measurements will be taken on complete ground stone items. Ceramics will be sorted by ware, type, and vessel fragment type (i.e., rim or body).

Ecofact classes consist of vertebrate animal and bulk shell specimens. Bulk shell should be sorted according to species during cataloging and coded in a separate database. Modified bone and shell should be separated from the unmodified bone and shell assemblages. Historic and modern items should be cataloged and identified as specifically as possible, but further study will not be undertaken unless they are considered to be of ethnohistoric origin. Large samples of modern trash should be weighed but not counted. Ethnohistoric items should be cataloged and coded according to type and material. Finally, soil samples obtained for phytolith analysis, archaeobotanical remains and heavy fractions from flotation, geological samples, and charcoal samples should be cataloged according to sample type. Artifacts discovered during flotation-heavy fractions should be sorted and cataloged according to material class.

After preliminary cataloging of the material is completed, more detailed attribute analysis of the major artifact classes (especially stone tools, cores, debitage) should be performed. The research issues addressed in the study design will define this process.

Cultural resource evaluation and data recovery reports must meet the content and form requirements of the Secretary of the Interior (Federal Register 1983). Each statement of fact contained in the report must be backed up by references, direct observation, or analytical test results. The report must contain detailed information regarding study issues, questions, hypotheses, the methods and data used to answer study questions or to test the hypotheses, and the results of the investigations.

The reports must contain scaled maps showing site boundaries, and the locations of all STPs, trenches, and excavation units. Any new information about site location or configuration should be clearly indicated. Maps indicating locations of units will include symbols for various kinds of tests (e.g., shovel units and hand-excavated units) that indicate the presence or absence of cultural material and the type of material present. Surface collection results and the location and results of STPs, test units, trenches, and any other tests should be mapped using contour lines of artifact density. Intervals of artifact density between contour lines should be chosen using a geometric progression technique or some other non-iterative technique.

Evaluation reports will contain a statement of significance for each site evaluated and historic context sufficient for the evaluation. NRHP-eligibility determination will be presented for each resource. The report will include tables showing quantities of all cultural material recovered by level and excavation unit. Levels or units containing no cultural material will be explicitly identified. Tables should include both counts and weights for all data for which these variables have been recorded. The report must discuss the site type and site integrity (existing conditions of the site). Affects of the undertaking must be presented in detail sufficient to evaluate recommendations for mitigating actions. Location and percentage of impacts by the undertaking must be graphically displayed.

At least two copies of the draft reports for evaluation or data recovery must be submitted to the CRM for review. Five copies of the final report for evaluation or data recovery will be submitted to the CRM. All deliverables will support AC/S ES GIS-operability requirements. The CRM will forward copies of the draft and final data recovery reports to the SHPO. One copy of the final report for evaluation and data recovery will be submitted to the South Coastal Information Center and to the San Diego Museum of Man.

4.16.5 Curation of Records, Artifacts, and Other Recovered Material for Evaluation and Data Recovery

CPEN has entered into a contract with the San Diego Archaeological Center (SDAC) for the curation of material recovered from surface collection and excavation activities. Material must be catalogued, labeled, and packaged for storage in accordance with the current federal regulation and requirements of the SDAC, including the following:

- all notes and field forms must be copied on acid-free paper and stored in acid-free file boxes
- all photographs must be logged and stored in acid-free photographic sleeves
- all artifacts and ecofacts must be catalogued, accession numbered, or tagged and stored in acid-free containers
- all material must be stored in a secure and locked facility

All material held by third parties when CPEN entered into a curation agreement will be transferred to the facility as funding allows. All new projects will be required to use the curation facility and to budget for a minimum of 10 years curation. Periodic/annual reports/updates of stored inventory will be provided to CPEN and be accessible upon request.

4.16.6 Summary of Evaluation and Mitigation Procedures

This ICRMP is designed to guide CPEN staff in the protection of NRHP-eligible cultural resources from irreparable damage. This chapter has covered the identification and evaluation process for cultural resources that are affected by an undertaking. This process consists of two primary factors:

- does the undertaking represent a potential adverse impact on cultural resources identified during the survey process
- are the resources subject to potential adverse impact sufficiently important to qualify as eligible to the NRHP

If the answer to both is yes, then further justification of the proposed action is necessary. Possible responses to meet legal requirements regarding protection and enhancement of the cultural environment include (1) avoidance, (2) mitigation, or (3) no action.

Avoidance is the preferred protection and management strategy and can often be achieved for actions that affect small areas, particularly if the survey is completed early in the design phase of a project. Minor relocation to achieve avoidance is often possible and should always be considered first.

Mitigation by data recovery is the least favored alternative since it is a destructive process. Excavation is expensive and time consuming as well, since it usually involves extensive surface collection and/or excavation of the affected site.

4.17 HISTORIC-ERA RESOURCES

4.17.1 Historic Structures: Preservation in Place and Documentation

This section provides the documentation methods and treatment procedures for potentially eligible historic structures that could be affected by projects at CPEN.

As with archaeological sites, preservation in place is the preferred alternative for the treatment of potentially eligible historic structures that could be affected by proposed undertakings. Preservation in place may be accomplished through redesign or rerouting of the proposed undertaking. However, even if the historic structure can be avoided, preservation in place may require stabilization, maintenance, or rehabilitation. “Stabilization” is defined as applying measures designed to reestablish a weather-resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present. This may involve re-roofing or reinforcing flooring. “Maintenance” involves protection from vandalism and preservation of the historic materials. “Rehabilitation” involves repair or alteration which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historical, architectural, and cultural values. Rehabilitation has also been referred to as “adaptive reuse” and may involve more extensive modifications than stabilization including new plumbing, roofing, wiring, and the like. The idea is to preserve the historic fabric of the building while bringing it up to modern building codes and standards in order to use a historic building for a contemporary function. Any stabilization, maintenance, or reuse plan should be prepared by a qualified historic architectural resources specialist and must be approved by the CRM and the SHPO.

If the historic structure cannot be preserved in place, the architectural or engineering characteristics of the structure must be documented prior to impacts occurring. Documentation should also occur before any plan for rehabilitation or reuse is implemented. Architectural documentation must be carried out following the HABS standards for buildings and following Historic American Engineering Record (HAER) standards for structures designed by engineers. There are four levels of HABS/HAER documentation. An architectural historian should determine the appropriate level of documentation during the evaluation process based on degree of integrity, level of significance of the structure, and final outcome of the action (demolition or reuse). Documentation techniques include photography using large-format cameras from fixed, surveyed positions; plan maps of the site; floor plans; and architectural drawings of elevations and interior features.

In addition to documentation of structures that must be demolished or altered, salvage of significant architectural features for donation to a museum, historical society, or other appropriate group may be undertaken.

4.17.2 Evaluation of Historic Cultural Resources

Evaluation of historic archaeological sites requires historical research as well as sound field methods and techniques. Historical research for CPEN has been provided in a number of resource documents including Schroth 1995; Rasmussen 1999; Reddy and Byrd 1997; Schaefer 1992a, 1992b. Site-specific research is needed to establish historical context for the material remains.

Fieldwork should be directed toward determining whether foundations or other structural remains exist and whether concentrated trash deposits are present that can provide subsistence, ethnicity, and economic data. These remains are less subject to impacts by mechanical equipment and can be detectable using remote-sensing equipment. Some combination of remote-sensing, mechanical excavation, and hand excavation are often effective means to conduct evaluation of historical archaeological sites. As with prehistoric site evaluations, historic site evaluations must collect data sufficient for a reliable determination of site significance and eligibility for the NRHP.

A combination of mechanical trenching and hand-dug units can be used to identify and evaluate the historic deposit. All soil recovered from the hand dug units will be screened through 1/8-inch wire mesh screen. Trench spoil can be screened in intervals to achieve a random sample. Each trench should be plotted on a site map. Cultural material is collected, bagged, labeled, and catalogued. Trench and unit forms are filled out detailing provenience, artifact recovery, soil description (including Munsell color), depth, and observation notes. Each unit should be plotted on a site bse map and all units and trenches will be backfilled.

4.17.3 Treatment of Historic Cultural Resources

JRP Historical Consulting Services completed an inventory and evaluation of NRHP-eligibility for more than 3,000 buildings and structures at CPEN that were classified as historic (in excess of 50 years old). The JRP study examined 3,572 buildings on CPEN built between 1942 and 1989. A total of 6 buildings were found eligible for nomination to the NRHP:

- Building 1133; Division Headquarters built in 1943
- Building 1261; Administration, built in 1942
- Building 1645; Storage, built in 1942

- Building 1657; Hobby Shop, built in 1943
- Building 1671; Administration, built in 1943
- Building 51811; Enlisted Personnel Beach Club, built in 1946

In addition, there are two compounds that date to the early years of the historic period at CPEN and both of these compounds are listed on the NRHP. The first is the Santa Margarita Ranch House at the intersection of Vandegrift and Basilone roads, and the second is the Las Flores Adobe at the intersection of Las Pulgas and Stuart Mesa roads. The latter structure is also a listed National Historic Landmark.

4.17.4 Archaeological Resources Protection Act

CPEN must issue permits for non-governmental exceptions to ARPA. Exceptions to ARPA require an ARPA permit. Under 32 CFR Part 229.2, any person may apply for an ARPA permit to excavate and/or remove archaeological resources from public lands. This regulation designates the federal land manager as the authority to issue such permits. ARPA compliance and permitting is discussed in detail in Chapter 5 of this document.

5.0 PROCEDURES

Individuals or organizations wishing to undertake archaeological investigations that may result in the excavation and/or removal of archaeological resources from the installation shall obtain an ARPA permit. The permit shall be obtained by submittal of an ARPA permit application accompanied by a work plan and research design. The CRM will monitor the field investigations of persons with archaeological permits to ensure:

- compliance with the requirements of 32 CFR 229, 43 CFR 10, and with the terms and conditions of the permits
- that valid interests of federally recognized Native American tribes on the permitted activity are addressed in a manner consistent with the requirements of the NHPA and NAGPRA
- that permitted activities are performed according to applicable professional standards of the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*
- that the CRM shall not be required to obtain a permit under the conditions established in 32 CFR 229.5(c)

5.1 ARCHAEOLOGICAL RESOURCES PROTECTION ACT COMPLIANCE: PROTECTION FROM VANDALISM

5.1.1 Description

Under the requirements of ARPA and other federal statutes, CPEN is required to protect archeological resources that are 100 years old or older from vandalism and other sources of destruction (see Attachment D).

5.1.2 Procedures

Archeological resources from military installations belong to the installation, except where NAGPRA requires repatriation to a lineal descendant or Native American tribe. The CPEN Commanding Officer will ensure that military police, installation legal staff, the Public Affairs Office, and the natural resources management staff are familiar with the requirements and applicable civil and criminal penalties under ARPA. In instances where proof of violation may be insufficient to obtain a conviction under ARPA or where deemed otherwise advisable, the Staff Judge Advocate may choose to assess a civil penalty under the provisions of 32 CFR 229.15. Such actions may be particularly applicable to violations of section 106 of the NHPA (36 CFR 800). The CPEN Commanding Officer may be considered to be the federal land manager as defined in 32 CFR 229.3(c). As the federal land manager, the Commanding Officer, in coordination with the installation CRM or other qualified archeologist/ historic preservation specialist, may determine that certain archeological resources in specified areas under his/her jurisdiction, and under specific circumstances, are not or are no longer of archeological interest and are not considered archeological resources for the purposes of ARPA (in accordance with 32 CFR 229.3(a)(5)). All such determinations shall be justified and documented by memorandum and shall be formally staffed for review prior to final determination. In addition, CPEN will:

- Engage the Provost Marshall and Staff Judge Advocate to vigorously enforce the law in cases where vandalism can be proved.
- Assess whether a civil penalty under provisions of 32 CFR 229.15 can be applied in cases with no sufficient proof to obtain a conviction under ARPA, or where deemed otherwise advisable. This procedure is particularly applicable to violation of restrictions placed by the CRM on digging permits that allow excavation in ranges and training areas, and to violation of areas identified by Seibert stakes as off-limits.

5.2 NATIVE AMERICAN PARTICIPATION, COORDINATION, AND CONSULTATION

Native American consultation and coordination is undertaken at CPEN in the spirit of the 1994 Executive Order on government-to-government relations with Native American tribal governments. Consultation shall follow the requirements set forth in the NHPA, Secretary of the Navy Instruction 11010.14, and DoD American Indian and Alaska Native Policy. Consultation is conducted with federally recognized tribes on a government-to-government basis. Non-federally recognized tribes shall be consulted as interested parties and as consulting parties as defined in NHPA. Consultation and coordination shall be conducted openly and in good faith, using written, electronic, telephonic, and face-to-face interaction. The final decision-making authority over CPEN historic properties and actions rests with CPEN.

CPEN shall identify official points of contact prior to initiating consultation with all tribal governments who may have an interest in the matter under consultation (see Attachment A). Based on the location of CPEN, interaction with representatives of the Luiseño and Juaneño tribal groups comprises the most typical consultation. Regular updating of the tribal contact list is an element of tribal consultation. The base will recommend times and locations for meetings with the understanding that it may be necessary to negotiate the time and place for consultation. Consultation will take place at a time and in a location, either on CPEN or off the base, convenient for tribal representatives.

CPEN recognizes that scheduling consultation is dependent on several factors. Consultation may require multiple meetings over a period of months or it may be dependent on culturally specific circumstances such as religious ceremonies only conducted at certain times of the year. It is the intent of CPEN to start consultations early and to allow sufficient time for completion of consultation.

5.2.1 Traditional Cultural Properties and NAGPRA

A traditional cultural property (TCP) is a property that is "eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that (a) are rooted in that communities history, and (b) are important in maintaining the continuing cultural identity of the community" (Parker and King 1998). Parker and King continue that TCPs are often hard to recognize. A common-looking mountain top, a stretch of river, or a location by a modern highway may be a significant ceremonial location. A culturally important neighborhood may look like a group of houses. Such locations may not be readily apparent and may not come to light using standard archaeological techniques. Only through interviews with living descendants, ethnohistoric research, and architectural studies will the potential TCP be ascertained.

CPEN has completed two ethnohistoric studies involving records at the San Luis Rey and San Juan Capistrano missions about the Luiseño and Juaneño Indians from the CPEN area. These documents

have resulted in the digitizing of Mission baptismal records, interviews with descendants of the Mission Indians, and identification of ethnohistoric villages as they relate to clans and families. CPEN will finalize the ethnohistoric documentation through completion of interviews aimed at identifying additional lineal descendants to the villages on CPEN and better identifying possible TCPs.

NAGPRA has two basic elements, section 3 and section 7. Section 7 requires the repatriation of human remains and associated cultural objects recovered prior to 1990, and section 3 requires specific steps necessary to determine the appropriate disposition of "Inadvertent Discoveries" of human remains and associated cultural objects recovered subsequent to 1990. CPEN has fully complied with section 7 of NAGPRA. In fulfillment of section 3, CPEN has negotiated a comprehensive agreement for the handling and disposition of inadvertent discoveries of human remains and cultural objects recovered since 1990 (Attachment H). Modifications to the agreement are currently being negotiated.

5.3 PUBLIC AWARENESS AND PUBLIC INVOLVEMENT PROGRAM

CPEN will develop and implement programs in support of public education and community outreach, including but not limited to the following:

- Development of brochures and flyers detailing the cultural resources program on CPEN.
- Development of educational material and displays for use at CPEN elementary schools.
- Preparation of presentation materials that will be used in public presentations about the program.
- Participation in California Archaeology Week activities, including public presentations, tours, and exhibits.
- Participation in professional societies and meetings to enhance public outreach and education goals and to increase awareness of CPEN's cultural resources programs. CPEN will work with and support professional and avocational societies to advance cooperative efforts in public outreach and education.

In accordance with the requirements of section 106 of NHPA, CPEN will seek and consider the views of the public when carrying out actions. CPEN may coordinate this public participation requirement with those of NEPA and other pertinent regulations and statutes. Parties that have expressed an interest in a base undertaking will be invited to participate in the consultation and review process. Such interested parties may include local governments, permittees, Native American tribes, and other interested members of the public.

5.4 PROFESSIONAL QUALIFICATIONS OF CONSULTANTS

The CRM can call upon the professional services of archaeologists for cultural resources management. Consultants contracted to conduct archaeological research (prehistoric and historic) on the base must fulfill the minimum qualifications for a principal investigator set by Secretary of the Interior's standards and guidelines and be certified by the RPA.

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