
Integrated Cultural Resources Management Plan

Marine Air Ground Task Force Training Command,
Marine Corps Air Ground Combat Center,
Twentynine Palms, California

FY21 through FY25



Final
SEP 2020

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Executive Summary

This Integrated Cultural Resources Management Plan (ICRMP) is a full revision of the previous plan signed 15 June 2012. This five-year plan describes the intent and execution of the cultural resources management program aboard the Combat Center. Development and revision of the ICRMP in consultation with the State Historic Preservation Officer and culturally-affiliated Tribes is required by Department of Defense Instruction 4715.16 at least every five years.

The purpose of this ICRMP is to provide guidance and to act as a specific planning document for use by Federal resource managers regarding administration of the cultural resources program aboard the Combat Center. The ICRMP also provides a framework for ensuring compliance with regulatory requirements as described in Marine Corps Order 5090.2, including Sections 106 and 110 of the National Historic Preservation Act.

The goals of the cultural resources program are to 1) Strengthen the Combat Center's operational capabilities; 2) Respect and support Tribes' relationships to resources; 3) Maintain robust compliance with regulatory requirements; and 4) Ensure responsible stewardship of cultural resources aboard the Combat Center. Successful accomplishment of tasks and objectives supporting these goals can only be achieved with the support of elements throughout the command, as described herein.

Organization of the ICRMP

The first chapter opens with the missions of the Marine Air Ground Task Force Training Command and the Marine Corps Air Ground Combat Center, as these are central to the cultural resources program. This chapter also describes how this ICRMP revision was developed; identifies applicable laws, regulations, and orders; and describes roles and responsibilities throughout the command for implementation of the cultural resources program.

Chapter 2 describes the setting in which cultural resources are managed. This includes a description of the environmental context, physical landscape, and land uses aboard the installation.

The ICRMP describes cultural resources aboard the Combat Center are in Chapter 3. This includes the cultural context for these resources--ethnographic, archaeological prehistoric, and post-contact historic. The Combat Center specifically includes the beliefs and customs of the native peoples in describing this (ethnographic) context. This chapter also discusses previous studies, identifies known cultural resources aboard the installation, and describes how the Combat Center curates its collections of cultural materials.

Chapter 4 identifies how the Combat Center manages its cultural resources. This chapter includes a description of program goals, objectives, and targets; identifies applicable regulatory documents; describes coordination and consultation.

Key standard operating procedures (SOPs) for the program are found at Appendix 1, and a five-year workplan identifying the fiscal year in which program actions are planned is at Appendix 2.

Summary of Cultural Resources

The Combat Center encompasses approximately 760,567 acres, of which approximately 56,058 are in a shared-use area managed by Bureau of Land Management and available for the Combat Center for up to two 30-day periods per year.

Cultural resources aboard the Combat Center reflect use by four different cultures: Serrano, Chemehuevi, Mojave, and Cahuilla. These cultures are represented today by the 11 Federally-recognized tribes with whom the Combat Center consults:

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Cahuilla Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Mission Indians of the Cahuilla Reservation
- Chemehuevi Indian Tribe
- Colorado River Indian Tribes
- Fort Mojave Indian Tribes
- Morongo Band of Mission Indians
- San Manuel Band of Mission Indians
- Torres-Martinez Desert Cahuilla Indians
- Twenty-Nine Palms Band of Mission Indians

Table 1: Cultural Resources Data Summary for the Combat Center

FACILITY ACREAGE (TERRESTRIAL)	TOTAL	PERCENT
Acres Surveyed	441,113.6	58
Acres to be Surveyed	319,453.4	42
Total Acres	760,567	-
<i>ARCHAEOLOGICAL SITES</i>		
Number of Sites formally evaluated by MCAGCC*	853	33
Undetermined Sites	1,776	67
National Register of Historic Places Listed	1	-
Total	2,630	-
Buildings & Structures Evaluated	123	
BSOs Eligible for NRHP	0	0

*Represents the number of sites that have been formally evaluated for the NRHP by the Combat Center requiring SHPO consultation and concurrence

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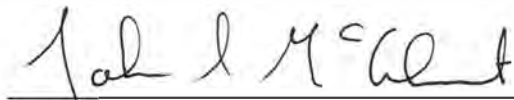
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Signature Page

COMMANDING GENERAL
MARINE AIR GROUND TASK FORCE TRAINING COMMAND

This updated Integrated Cultural Resources Management Plan documents the procedures and processes through which the Combat Center fulfills its commitment to compliance with applicable laws, Regulations, and policies, in the spirit of faithful stewardship of cultural resources.



Date: 20200929

JOHN S. MCCALMONT
Lieutenant Colonel, U.S. Marine Corps
By direction

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ICRMP Annual Review

The Marine Corps Air Ground Combat Center (MCAGCC) Integrated Cultural Resources Management Plan (ICRMP) must be updated each year to include changes, amendments, and updates pertaining to the cultural resources on the installation. The review should note changes in stakeholder points of contact, initiatives completed over the past year, and distribution of the annual fiscal year Historic Preservation Compliance Reports (HPCRs). Updated information may be found in Non-Confidential Appendices and Confidential Appendix 3.

The ICRMP has been reviewed and updated as needed by:

NAME: _____
TITLE: _____
DATE: _____
UPDATED INFORMATION? YES NO
NOTES: _____

NAME: _____
TITLE: _____
DATE: _____
UPDATED INFORMATION? YES NO
NOTES: _____

NAME: _____
TITLE: _____
DATE: _____
UPDATED INFORMATION? YES NO
NOTES: _____

NAME: _____
TITLE: _____
DATE: _____
UPDATED INFORMATION? YES NO
NOTES: _____

NAME: _____
TITLE: _____
DATE: _____
UPDATED INFORMATION? YES NO
NOTES: _____

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Abbreviations and Acronyms

The following table presents acronyms used within several chapters or on several pages of this document. Acronyms defined in the text and confined to a single sub-chapter or page are not included in this list. In addition to this list, Appendix 4 A contains a glossary of terms used throughout the document.

Acronym	Word or phrase
AAA (AW)	Anti-Aircraft Artillery (Automatic Weapons)
AAV	Amphibious Assault Vehicle
ACHP	Advisory Council on Historic Preservation
AIRFA	American Indian Religious Freedom Act
ALZ	Assault Landing Zones
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
ATG	Advisor Training Group
AW	Automatic weapons
BEARMAT	Range Operations Section or Range Control
BLM	Bureau of Land Management
BR	Budget review
BZO	Battle Sight Zero
CA-SBR-	The prefix assigned to archeological sites in San Bernardino County, indicating the state (CA) and the county (SBR), followed by a sequential number assigned by the San Bernardino Records Center located at the San Bernardino County Museum in the city of San Bernardino. The site designation is referred to as the <i>site trinomial</i> .
CADD	Computer-aided design and drawing
CAT	Combined Arms Training
CAX	Combined Arms Exercise
CFR	Code of Federal Regulations
CLEO	Conservation Law Enforcement Officer
CNA	Center for Naval Analysis
CO2	Carbon dioxide
COMS	Contractor Operation and Maintenance
CRM	Cultural Resources Manager
DAC	Direct Assault Course
DEFIREX	Desert Fire Exercise
DFAS	Defense Finance Account Service
DLCRMA	Deadman Lake Cultural Resource Management Area
DoD or DOD	Department of Defense
DoN	Department of the Navy
DZ	Drop Zone
EA	Environmental Assessment
EAD	Environmental Affairs Division (formally NREA)
EAF	Expeditionary Airfield
ECE	Environmental Compliance Evaluation
EF	Expeditionary Facilities
EFD	Engineering Field Division

Acronym	Word or phrase
EO	Executive Order
EOD	Explosive Ordnance Disposal
ERETS	Enhanced Remote Engagement Target System
ESB	Exercise Support Base
EMV	Enhanced Mojave Viper
EWTGPAC	Expeditionary Warfare Training Group, Pacific
FAA	Federal Aviation Administration
FARP	Forward Arming and Refueling Point
FASP	Forward Ammunition Supply Point
FAV	Formal Assist Visit
FINEX	Final Exercise
FLB	Forward Logistical Base
FMF	Fleet Marine Force
FOB	Forward Operating Base
FR	Fixed Ranges
FSCAC	Fire Support Coordination Application Course
FY	Fiscal Year
HE	High Explosive
HPCR	Historic Preservation Compliance Report
HPP	Historic Preservation Plan
HMMWV	High-Mobility Multi-Purpose Wheeled Vehicle
HPCR	Historic Preservation Compliance Report
HQMC	Headquarters, Marine Corps
HWMB	Hazardous Waste Management Branch
ICRMP	Integrated Cultural Resources Management Plan
IED	Improvised Explosive Device
INRMP	Integrated Natural Resources Management Plan
IP	Initial Point
IROS	Industrial Recycling Section
ISD	Installation Support Directorate
LAAM	Light anti-aircraft missile
LAV	Light Armored Vehicle
LZ	Landing zone
MAGTF	Marine Air Ground Task Force
MAGTFTC	Marine Air Ground Task Force Training Command
MCAGCC	Marine Corps Air Ground Combat Center
MCB	Marine Corps Base
MCCES	Marine Corps Communications and Electronics School
MCO	Marine Corps Order
MCTC	Marine Corps Training Center
MCTOG	Marine Corps Tactics Operations Group
MEB	Marine Expeditionary Brigade
MEDEVAC	Medical Evacuation (typically via helicopter)

Acronym	Word or phrase
MEF	Marine Expeditionary Force
MILCON	Military construction
MOA	Memorandum of Agreement
MOUT	Military Operations in Urban Terrain
MSR/ASR	Main Supply Route/Alternate Supply Route
MTU	Marksmanship Training Unit
NAGPRA	Native American Graves Protection and Repatriation Act
NAVFAC	Naval Facilities Engineering Command
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMCI	Navy-Marine Corps Intranet
NORDO	Non-Operational Radio
NRHP	National Register of Historic Places
OHV	Off-Highway Vehicle
OP	Observation Point
P2	Pollution Prevention
PATS	Portable Armor Target System
PITS	Portable Infantry
PMO	Provost Marshal's Office
POL	Petroleum, oil, and lubricants
PRTSS	Pre-Designated Range Training Support Site
PWD	Public Works Division
RCRA	Resource Conservation and Recovery Act
RCRS	Residential Commercial Recycling Section
RFMSS	Range Facility Management Support System
ROICC	Resident Officer in Charge of Construction
RSB	Range Sustainment Branch
RTAA	Range Training Area and Airspace
RTAMS	Range Training and Maintenance Section
RTISS	Range Training and Instrumentation Systems Support
SACON	Shock-absorbing Concrete
SDZ	Surface Danger Zone
SELF	Strategic Expeditionary Landing Facility
SESAMS	Special Effects Small Arms Marking System
SHPO	State Historic Preservation Officer
SLR	Segregated Lithic Reduction
SRL	Segregated Reduction Location
TA	Training Area
TACP	Tactical Air Control Party
TAV	Technical Assist Visit
TP	Training program
TTECG	Tactical Training Exercise Control Group
U. S.	United States
U. S.C.	United States Code
USMC	United States Marine Corps

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1. Introduction

The philosophy at the Combat Center regarding the cultural resources management program is to preserve and protect components of the nation's and Tribal heritage through responsible cultural resources stewardship and the implementation of the ICRMP. By establishing an integrated approach to cultural resources compliance and preservation this ICRMP should be used by MAGTFTC and Combat Center facilities planners, environmental staff, MAGTF Training Directorate (MTD), MAGTF Tactical Training Exercise Control Group (TTECG), and operations managers to remain in compliance with state and federal cultural resource laws and to ensure that significant historic properties are not affected by planned undertakings while meeting mission-essential requirements

1.1. Command and Installation Missions

The mission of the Marine Air Ground Task Force Training Command (MAGTFTC) is to manage the Marine Air Ground Task Force Training Program (MAGTFTP) and conduct service level Marine Air Ground Task Force (MAGTF) combined arms training to enhance the combat readiness of the operating forces and support the Marine Corps' responsibilities to national security. The mission of the Marine Corps Air Ground Combat Center (Combat Center) is to provide a standard of excellence in managing facilities, services, and support to the operating forces and families in order to ensure readiness of the tenant and resident commands aboard the Combat Center.

The Combat Center is the largest combined-arms, live-fire training range complex in the Marine Corps inventory, encompassing approximately 760,567 acres (1,188.4 sq. miles). MAGTFTC trains more than one-third of the Fleet Marine Force prior to overseas deployment in support of ground combat operations. In addition to the MAGTFTC training program, the Combat Center hosts training events, tests, and evaluations by joint and allied forces and other partners Figure 1).

1.2. Goals for the Cultural Resources Program

The cultural resources program aboard the Combat Center enables sustained execution of the MAGTFTC and Combat Center missions. The Combat Center accomplishes this by ensuring compliance with Federal laws and regulations and appropriately managing cultural resources held in trust by the Marine Corps. These activities are conducted in partnership with culturally-affiliated tribes, and in consultation with those tribes and the California State Historic Preservation Officer (SHPO).

This Integrated Cultural Resources Management Plan (ICRMP) is a resource for internal and external stakeholders describing the cultural resources program. The goals of the program are to 1) Strengthen the Combat Center's operational capabilities; 2) Respect and support Tribes' relationships to resources; 3) Maintain robust compliance with regulatory requirements; and 4) Ensure responsible stewardship of cultural resources aboard the Combat Center. Objectives and targets established to achieve these goals are discussed in Section 4.1 of this ICRMP.

1.3. Preparation of the ICRMP Revision

Data required for the preparation of this ICRMP update was solicited and obtained from both internal and external sources. External sources included the California State Historic Preservation Officer (SHPO), and a number of Native American tribes.

Native American tribes near the Combat Center lands were consulted, and their input was requested for the purposes of developing a Programmatic Agreement for the Section 106 Process and the Standard Operating Procedures that would be implemented under the PA and this updated this ICRMP (semi-annual Tribal Consultation meeting 2018; semi-annual Tribal Consultation meeting June 2019). Consultation is carried out with those Native American groups or individuals who may have an interest in the geographic area or particular resources and land uses under consideration. The Native American tribes contacted include:

- Agua Caliente Band of Cahuilla Indians (ACBCI)
- Augustine Band of Cahuilla Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Mission Indians of the Cahuilla Reservation
- Chemehuevi Indian Tribe
- Colorado River Indian Tribes
- Fort Mojave Indian Tribes
- Morongo Band of Mission Indians (MBMI)
- San Manuel Band of Mission Indians (SMBMI)
- Torres-Martinez Desert Cahuilla Indians
- Twenty-Nine Palms Band of Mission Indians

Internal sources of information included the 2012 ICRMP, the draft 2017 ICRMP, the July 2012 FEIS Land Acquisition and Airspace Establishment, and the 2018 Final EA for Ongoing Training at the Marine Air Ground Combat Center.

1.4. Laws, Regulations, and Orders

There are numerous Federal statutes, regulations, Executive Orders (EOs), and memoranda applicable to the management of historic properties and the operation of the Combat Center cultural resources program. Table 2 provides a comprehensive list of regulations followed by annotated descriptions of key laws and regulations. The components of this chapter section are organized as follows: the first component lists each of the Federal laws that pertain to cultural resources, including their implementing regulations and guidelines; the second lists EOs and Presidential Memoranda; and the final component outlines the military regulations and guidance geared toward cultural resources management.

Federal legislation and regulations apply to the management of cultural resources on Federal reservations, including military installations like the Combat Center. Federal, DoD, DoN, and Marine Corps regulations also apply to tenants (i.e., other Federal agencies, contractors, lessees)

situated on real property under DoN/USMC jurisdiction. DoD Instructions can be accessed at <http://www.dtic.mil/whs/directives>. The Defense Environmental Network and Information eXchange (DENIX) is an electronic environmental bulletin board accessible throughout the DoD. It gives DoD environmental occupational health and safety officers a central communications platform to gain timely access to vital environmental information.

Table 2: List of Regulations, Laws, EO's and guidelines for cultural resources management

FEDERAL
Laws and Executive Orders
National Historic Preservation Act of 1966, as amended (NHPA)
National Monument Act/Antiquities Act of 1906
Reservoir Salvage Act of 1960
Archaeological Resources Protection Act of 1979 (ARPA)
Executive Order 11593, Protection and Enhancement of the Cultural Environment
American Indian Religious Freedom Act of 1978 (AIRFA)
Presidential Memorandum for Heads of Executive Departments and Agencies: Government to Government Relations with Native American Tribal Governments
Native American Graves Protection and Repatriation Act (NAGPRA)
National Environmental Policy Act of 1969 (NEPA)
Historic Sites, Buildings, Objects and Antiquities Act of 1935
Religious Freedom Restoration Act of 1993
Archaeological and Historic Preservation Act of 1974
Executive Order 11593, Protection and Enhancement of the Cultural Environment
Executive Order 13006, Locating Federal Facilities on Historic Properties in Our Nation's Central Cities
Executive Order 13007, Indian Sacred Sites
Executive Order 13175, Consultation and Coordination with Indian Tribal Governments
Executive Order 13287, Preserve America
Executive Order 13327, Federal Real Property Asset Management
Executive Order 13514, Federal Leadership in Environmental Energy, and Economic Performance

Regulations

Curation of Federally Owned Archaeological Collections (36 CFR 79)

National Historic Landmark Program (36 CFR 65)

National Register of Historic Places (36 CFR 60) and Determinations of Eligibility for Inclusion in the National Register (36 CFR 63)

Protection of Archaeological Resources: Uniform Regulations (43 CFR 7)

Protection of Historic Properties (36 CFR 800) - Section 106 Process

Secretary of Interior Standards for the Treatment of Historic Properties (36 CFR 68)

Waiver of Federal Agency Responsibility under Section 110 of the National Historic Preservation Act (36 CFR 78)

Regulations Implementing the National Environmental Policy Act (40 CFR 1500-1508)

Preservation of American Antiquities (43 CFR 3)

Supplemental Regulations [per Archaeological Resources Protection Act] (43 CFR 7)

Native American Graves Protection and Repatriation Act Implementation (43 CFR 10)

Standards and Guidelines

Guidelines for Federal Agency Responsibilities, Under Section 110 of the NHPA

The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation

The Secretary of the Interior's Professional Qualifications Standards

The Secretary of the Interior's Proposed Historic Preservation Professional Qualification Standards

The Secretary of the Interior's Standards for Treatment of Historic Properties (36 CFR 68)

The Secretary of the Interior's Standards for Rehabilitation (36 CFR 67)

The Secretary of the Interior's Standards for Architectural and Engineering Documentation

The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act

DEPARTMENT OF DEFENSE

Department of Defense Instruction 4715.16, Cultural Resource Management (September 2008)

Department of Defense Instruction 4710.02, DoD Interactions with Federally Recognized Tribes (September 2018)

Department of Defense American Indian and Alaska Native Policy

DEPARTMENT OF THE NAVY

Marine Corps Guidance for Completion of an Integrated Cultural Resources Management Plans (February 2009)

MCO 5090.2 Ch. 3, Volume 8, Environmental Compliance and Protection Manual

MCO 57501.1H, Manual for the Marine Corps Historical Program (February 2009)

Secretary of the Navy Instruction 4000.35B, Department of the Navy Cultural Resources Program (April 2019)

Secretary of the Navy Instruction 11010.14B, Department of the Navy Policy for Consultation with Federally Recognized Indian Tribes (January 2019)

OPNAV INST 5090.1E, Department of the Navy Environmental and Natural Resources Program Manual (September 2019)

OTHER

MAGTFTC/MCAGCC Draft Programmatic Agreement Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act (draft PA JUL 2020)

1.4.1. Federal Statutes and Implementing Regulations

National Historic Preservation Act of 1966, as amended, and Implementing Regulations; 54 U.S. Code 300101. The National Historic Preservation Act (NHPA) of 1966, as amended through 2014, is the primary Federal statute that addresses the management of cultural resources. It establishes Federal policy on historic preservation and provides the framework by which the nation's historic preservation program was developed. Provisions of the NHPA most applicable to the Combat Centers historic preservation program include:

- **Section 106; 54 U.S. Code 306108 (36 Code of Federal Regulations [CFR] Part 800, revised August 5, 2004); *Protection of Historic and Cultural Properties***
 Section 106 requires Federal agencies to take into account the effect of undertakings on historic properties, and to allow the Advisory Council (discussed below) an opportunity to comment on such undertakings. This implementing guidance for Section 106 defines the process by which conflicts between historic preservation goals and proposed activities are identified and establishes steps for the resolution of conflicts through consultation. Specific guidance for Section 106 responsibilities is provided in Chapter 3: Standard Operating Procedures.
- **Section 110; 54 U.S. Code 306101-306114**
 This section of the NHPA affects all activities concerning historic properties under Federal jurisdiction. These guidelines are designed to aid Federal agencies in making

informed decisions in a good and steward-like manner for all historic resources under their care.

- **National Register of Historic Places(36 CFR 60)**

The National Register of Historic Places (NRHP) is the nation’s inventory of historic places and the national repository of documentation on the variety of historic property types. The established nomination process provides an avenue whereby historic properties of value on a national, state, or local level can be identified and nominated to the NRHP for listing.

- **State Historic Preservation Officers(SHPOs)**

The NHPA provides for a SHPO appointed by the governor to oversee a state’s historic preservation program and integrate it into the national program. Julianne Polanco was appointed SHPO on 12 June 2015 and still holds that title.

- **Advisory Council on Historic Preservation**

The Advisory Council on Historic Preservation (ACHP) was created to review Federal actions concerning historic properties and to advise the President and Congress on historic preservation issues.

- **Section 111; 54 U.S.C. 306121 and 306122**

Section 111 addresses the lease or exchange of historic properties, including stipulations for agreements to manage those properties.

The primary implementing regulations for the NHPA are:

- **Title 36 CFR 60, “National Register of Historic Places”** Provisions of this regulation address concurrent state and Federal nominations; nominations by Federal agencies; revision of nominations; and removal of properties from the NRHP.
- **Title 36 CFR 63, “Determinations of Eligibility for Inclusion in the National Register of Historic Places”** Provisions of this regulation establish processes for Federal agencies to obtain determinations of eligibility on properties.
- **Title 36 CFR 67, “Secretary of the Interior’s Standards for Rehabilitation”** Provisions of this regulation contain the Secretary of the Interior’s (SOI) standards for historic preservation projects, including acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction.
- **Title 36 CFR 79, “Curation of Federally Owned and Administered Archeological Collections.”** Provisions of this regulation provide standards, procedures and guidelines to be followed by Federal agencies in preserving and providing adequate long-term curatorial services for archaeological collections of prehistoric and historic artifacts and associated records that are recovered under Section 110 of the NHPA, the Reservoir Salvage Act, ARPA, and the Antiquities Act.

- **Title 36 CFR 800, “Protection of Historic and Cultural Properties.”** Provisions of this regulation include regulations of the ACHP to implement Section 106 of the NHPA as amended and presidential directives issued pursuant thereto.
- **Title 36 CFR 18, “Leases and Exchanges of Historic Property.”** Provisions of this regulation govern historic property leasing and exchange.

The primary implementing regulation of NAGPRA is:

- **Title 43 CFR 10. “Native American Graves Protection and Repatriation Act.”** Provisions of this regulation establish a systematic process for determining the rights of lineal descendants, Native American tribes, and Native Hawaiian organizations to certain Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony with which they are affiliated.

The primary implementing regulation of ARPA is:

- **Title 18 CFR 1312.** Provisions of the *Archaeological Resources Protection Act of 1979*, as amended (16 U.S.C. 470aa-mm) by establishing the uniform definitions, standards, and procedures to be followed by all Federal land managers in providing protection for archaeological resources, located on public lands and Indian lands of the United States. These regulations enable Federal land managers to protect archaeological resources, taking into consideration provisions of the American Indian Religious Freedom Act (92 Stat. 469; 42 U.S.C. 1996), through permits authorizing excavation and/or removal of archaeological resources, through civil penalties for unauthorized excavation and/or removal, through provisions for the preservation of archaeological resource collections and data, and through provisions for ensuring confidentiality of information about archaeological resources when disclosure would threaten the archaeological resources.

• **American Indian Religious Freedom Act of 1978; 42 U.S. Code 1996-1996a.** The American Indian Religious Freedom Act (AIRFA) of 1978 establishes the rights of Native Americans to have access to sacred sites or sites of religious importance, and to possess and use sacred objects. No regulations have yet been published for this law.

• **Archaeological and Historic Preservation Act of 1974; 16 U.S. Code 469c-2.** The Archaeological and Historic Preservation Act (AHPA) of 1974 provides for survey, recovery, preservation, and protection of scientific, prehistoric, historic, or archaeological data that may be irreparably lost as a result of Federal construction projects, or Federally licensed projects, activities, or programs.

• **National Monument Act of 1906, and Implementing Regulations, “Preservation of Antiquities”;** 34 Stat. 225, 16 U.S.C. 431 et seq. Also known as the Antiquities Act of 1906, this is the original protective statute for antiquities, including landmarks, archaeological sites, buildings, and similar properties on Federal land.

The primary implementing regulations for this act are Title 36 CFR 79 and:

- **Title 43 CFR 3.** Provisions of this regulation establish procedures to be followed for permitting the excavation or collection of prehistoric and historic objects on Federal lands.

Historic Sites Act of 1935, and Implementing Regulations; 16 U.S. Code 461-467. The Historic Sites Act of 1935 established national policy for the public use of historic resources, including National Historic Landmarks.

The primary implementing regulation for this act is:

- **Title 36 CFR 65, “National Historic Landmarks Program”.** Provisions of this regulation establish criteria and procedures for identifying properties of national significance, designating them as national historic landmarks, revising landmark boundaries, and removing landmark designations.

National Environmental Policy Act of 1969, as amended; 42 U.S. Code 4231. The National Environmental Policy Act (NEPA) requires Federal agencies to consider the environmental impacts of their proposed actions and reasonable alternatives to those actions. It identifies circumstances requiring the preparation of an Environmental Assessment (EA) or Environmental Impact Statement (EIS) in response to an adverse effect upon an historic resource.

1.4.2. Executive Orders and Presidential Memoranda

Executive Order 11593, *Protection and Enhancement of the Cultural Environment*, 13 May 1971. EO 11593 directs Federal agencies to provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the Nation; to ensure the preservation of cultural resources; to locate, inventory, and nominate to the NRHP all properties under their control that meet the criteria for nomination; and to ensure that cultural resources are not inadvertently damaged, destroyed, or transferred before the completion of inventories and evaluations for the NRHP. The intent of EO 11593 was integrated into NHPA, Section 110, through a 1980 amendment to the statute. Implementing regulations are Title 36 CFRs 60, 63, and 800.

Executive Order 13006, *Locating Federal Facilities on Historic Properties in Our Nation’s Central Cities*, 21 May 1996. This EO directs the Federal government to utilize and maintain historic properties and districts, especially those located in central business areas, wherever operationally appropriate and economically prudent.

Executive Order 13007, *Indian Sacred Sites*, 24 May 1996. EO 13007 directs that access to Native American sacred sites for ceremonial use by Native American religious practitioners be accommodated on Federal lands. It also directs that the physical integrity of sacred sites be protected and that the confidentiality of these sites be maintained. It further directs that procedures be implemented or proposed to facilitate consultation with appropriate Native American tribes and religious leaders.

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, 06 November 2000. This EO directs the Federal government to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the Federal government-to-government relationships with federally recognized tribes, and to reduce the imposition of unfunded mandates upon such groups.

Executive Order 13287, *Preserve America*, 03 March 2003. This EO directs Federal agencies to provide leadership in preserving America's heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the Federal government; by promoting intergovernmental cooperation and partnerships for the preservation and use of historic properties; by inventorying resources; and by promoting eco-tourism. This EO establishes an annual reporting requirement for Federal agencies with historic properties within their jurisdiction.

Executive Order 13327, *Federal Real Property Asset Management*, 06 February 2004. This EO directs Federal agencies to promote the efficient and economical use of Federal real property resources in accordance with their value as national assets and in the best interests of the nation. Agencies shall recognize the importance of real property resources through increased management attention, the establishment of clear goals and objectives, improved policies and levels of accountability, and other appropriate action. Each agency shall establish a Senior Real Property Officer.

Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, 05 October 2009. This EO establishes an integrated strategy towards sustainability in the Federal government and to make reduction of greenhouse gas emissions a priority for Federal agencies. The EO established a series of deadlines critical to achieving greenhouse gas emissions reduction goals, as well as numerical targets for agencies.

White House Memorandum for Heads of Executive Departments and Agencies: *Government-to-Government Relations with Native American Tribal Governments*, 29 April 1994. This memorandum calls for consultation between Federal agencies and Federally recognized Native American tribes on a government-to-government basis. The designated tribal representative will be treated as the representative of a government. Consultation shall occur formally and directly between the head of the Federal agency and the tribal leader.

White House Memorandum for Heads of Executive Departments and Agencies: *Policy Concerning Distribution of Eagle Feathers for Native American Religious Purposes*, 29 April 1994. This memorandum provides that because religious practices of Native Americans are protected by AIRFA, Native Americans are permitted to use eagle feathers for religious, ceremonial, or cultural activities by Title 50 Code of Federal Regulations Part 22.22. This memorandum requires Installation Commanders to collect and transfer eagle body parts and carcasses for use in Native American religious activities. Carcasses considered salvageable should be shipped to the U.S. Fish and Wildlife Service, Forensic Laboratory.

1.4.3. DoD Regulations and Guidance

Department of Defense Instruction 4715.16, Cultural Resources Management, 18 September 2008 (DoDI 4715.16 replaces the cultural resource sections of DoDI 4715.3).

This instruction establishes the sustainable preservation and management of cultural resources as DoD policy, assigns responsibilities to comply with statutory and regulatory requirements for ICRMPs, and provides additional guidance concerning implementation, consultation, and the coordination of cultural resources programs with other DoD programs. It is DoD policy to:

- 1) Manage and maintain cultural resources under DoD control in a sustainable manner through a comprehensive program that considers the preservation of historic, archaeological, architectural, and cultural values; is mission supporting; and results in sound and responsible stewardship;
- 2) Be an international and national leader in the stewardship of cultural resources by promoting and interpreting the cultural resources it manages to inspire DoD personnel and to encourage and maintain U.S. public support for its military; and
- 3) Consult in good faith with internal and external stakeholders and promote partnerships to Manage and maintain cultural resources by developing and fostering positive partnerships with Federal, Tribal, state, and local government agencies; professional and advocacy organizations; and the general public.

Annotated Department of Defense American Indian and Alaska Native Policy

This policy establishes DoD principles for interacting and working with Federally recognized American Indian and Alaska Native governments.

Department of Defense Instruction 4710.02, DoD Interactions with Federally Recognized Tribes, September 2018.

This instruction implements DoD policy, assigns responsibilities, and provides procedures for DoD interactions with Federally recognized tribes in accordance with EO 13175 and the Presidential Memorandum on “Government-to-Government Relationships with Tribal Governments.”

SECNAV INST 4000.35B, Department of the Navy Cultural Resources Program, April 2019
SECNAV 4000.35B provides additional amplifying legislation, regulations, directives and guidance, and DoN contacts for cultural resources inquiries. It iterates policy of DoN for the protection of historic buildings, structures, districts, archaeological sites and artifacts, ships, aircraft, and other cultural resources as an essential part of the defense mission. The instruction provides cultural resources related definitions and responsibilities for the Assistant Secretary of the Navy Installations and Environment.

SECNAV INST 11010.14B, Department of the Navy Policy for Consultation with Federally Recognized Indian Tribes, January 2019.

This policy clarifies Navy procedures and responsibilities for consultation with Federally recognized Native American tribes.

MCO 5090.2 Volume 8, Chapter 3 *Environmental Compliance and Protection Manual*, Chapter 8, June 2018.

This manual establishes Marine Corps policy and responsibilities for compliance with statutory requirements to protect historic and archaeological resources. Chapter 8 addresses requirements for development and implementation of a historic and archaeological resources protection program, specifically outlining NHPA and ARPA. Procedures, in conformity with DoD specifications, detail the management of cultural resources under DoD control (see Appendix 5).

MCO P5750.1H, *Manual for the Marine Corps Historical Program*, February 2009.

This document sets forth policies and procedures governing the administration of the USMC Historical Program and delineates the respective responsibilities of USMC Headquarters and field commands in the execution of this program. It is published for the instruction and guidance of commanders, staff members, and individuals.

U.S. Marine Corps Guidance for Completion of an Integrated Cultural Resources Management Plans, February 2009.

This Marine Corps guidance document provides direction on the preparation of ICRMPs for Marine Corps installations. It includes a summary of the required elements of an ICRMP and provides guidance on the preparation of required information.

1.4.4 Combat Center Directives and Orders

CCO 5090.1G, *Environmental Protection Instruction Manual*, Ch. 6, Cultural Resources, April 2019

The base specific regulation details specific cultural resource management policy at the Combat Center to: identify, evaluate, and protect cultural resources eligible for inclusion in the NRHP; establish and carry out policy regarding the evaluation, management, and protection of cultural resources; provide command oversight of implementation of natural and cultural resources laws; and provide one central point of contact for conducting regulatory consultation. For all directives, orders, and agreements in this section, please see Appendix 6.

CCO 5090.8C, *Environmental Management System*, October 2019

Establishes a systematic approach for integrating environmental considerations and accountability into day- to-day decision making and long-term planning processes across the installation's mission and activities. The EMS Team is appointed by the Commanding General (CG). The EMS Team represents the interests of all installation directorates, commands, and tenant organization in the planning, implementation, and maintenance of EMS. The EMS Team provides installation wide oversight and support of the EMS implementation and sustaining effort; ensures appropriate participation of all directorates, commands, and tenants in EMS and ensures sustained conformance with the implementation.

CCO 5090.4G, *National Environmental Policy Act Compliance (NEPA) and Instruction Manual*, April 2019

In accordance with the references, establish MAGTFTC, the Combat Center NEPA compliance policy and procedural guidance for activities or individuals sponsoring a proposed action that may impact the environment aboard the Combat Center.

CCO 3500.4L, *Range Training Area, and Airspace Program and RTAA SOP*, January 2020

This Order establishes policy, assigns responsibilities, and provides instruction for all agencies and units operating within the MAGTFTC, the Combat Center RTAA under the control of the CG, MAGTFTC, aboard the Combat Center. This orders SOP provides a detailed source document governing commands using the Range, Training Areas and Airspace (RTAA) aboard the Marine Air Ground Task Force Training Command (MAGTFTC), Marine Corps Air Ground Combat Center (MCAGCC). It specifies responsibilities, gives descriptions of available training ranges, provides instructions on how to schedule the RTAA, and defines safety regulations for all live-fire, maneuver, and air operations aboard MAGTFTC, MCAGCC. The RTAA also delineates the boundaries of all Off-Limits/Restricted Areas in MGRS Grid coordinates (see Appendix 7).

1.5. Roles and Responsibilities

Users of this updated ICRMP will principally be Environmental Affairs Division cultural resources staff, Installation Support Directorate (ISD) (Logistics, Mission Assurance, Environmental Affairs, and MCCS); MAGTF training. The CRM within the Environmental Affairs Division is designated by the Commanding General and serves to coordinate with the other departments, divisions, and contractors as the roles of each have the potential to generate projects that could impact cultural resources.

Departments that will integrate the updated ICRMP into plans and daily operations are Environmental Affairs Division cultural resources staff, Installation Support Directorate (ISD) (Logistics, Mission Assurance, Environmental Affairs, and MCCS); MAGTF training (MTU, EOD, Ops and Training, and Range Ops. And TTECG. The ACHP's office and higher Headquarters may use the updated ICRMP as a reference for the Combat Centers cultural resources; Native American Tribes and the public may use it to familiarize themselves with the Combat Centers cultural resources program. Civilian contractors will also use it as a reference document, as they often perform tasks that may impact cultural resources.

1.5.1. Roles and Responsibilities

The ultimate responsibility for historic preservation compliance rests with the Combat Centers Commanding General. That responsibility includes all efforts to meet requirements of public laws such as NHPA, ARPA, and NAGPRA. The Commanding General programs, budgets, and allocates for the necessary funds to meet the Combat Centers cultural resources stewardship requirements including qualified staffing and training, and requests additional funds as appropriate. Marine Corps installation commanders must work to guarantee continued access to our land, air, and water resources for realistic military training and testing. Installation commanders must also ensure that the cultural resources entrusted to the Marine Corps care

remain intact and available for future generations. Marines need access to a variety of landscapes and facilities to conduct training. However, training can impact cultural resources on installation lands. As the American people place intrinsic value on certain resources, failure to protect those resources under the stewardship of the Marine Corps may lead to legislative, executive, or judicial directives limiting Marine Corps access to lands necessary to maintain military readiness.

The Combat Centers Commanding General delegates operational tasks to several installation positions as follows:

- 1) Environmental Affairs Director
- 2) Conservation Branch Head
- 3) CRM
- 4) Staff Archaeologist

Environmental Affairs Director

The EA Director provides the lead and overall oversight of environmental compliance aboard the Combat Center as Director of the Environmental Affairs Division (EAD). This includes planning for and guiding the accomplishment of established goals, objectives, and planned tasks to support the military and stewardship missions. Technical guidance is routinely provided by EAD staff regarding cultural resources protection and GIS data management. The EAD also provides technical environmental advice on both military and nonmilitary 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 aboard the Combat Center.

Conservation Branch Head

The Natural and Cultural Resources Conservation Branch Head reports to the EAD director (usually an Active Duty Marine) and to EAD's Deputy Director regarding the status of the conservation program. The Conservation Branch Head is the direct supervisor of the CRM and Staff Archaeologist and they report to the Conservation Branch Head.

CRM

The Combat Centers Commanding General delegates the responsibilities for implementing cultural resources management policies and procedures at the Combat Center to the CRM. The Commanding General will appoint a CRM for the installation. The Commanding General will maintain appointment of a CRM to implement ICRMP. The CRM shall either meet, or be advised by personnel meeting, the National Park Service Standards for Professional Qualifications. MAGTFCTC acknowledges the preference stated by multiple Tribes that the CRM meets the Professional Qualifications.

The CRM's specific responsibilities are:

- Plan and administer the installation's complex and multifaceted cultural resources program
- Coordinate with Combat Center staff on responsible stewardship of cultural resources
- Provide professional and technical advice to installation staff and command
- Support land management and environmental planning
- Monitor and report on compliance with cultural resources management regulations
- 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 on management of the NRHP-listed properties
- 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 the Combat Center
- Act as the Combat Centers Commanding General's liaison in regular consultations with interested Native American descendants
- Conduct consultation under Section 106 of the NHPA
- Lead annual ICRMP review/updates and five-year command reviews
- Notification of issues related to historic preservation compliance will be directed to the CRM who will address all communication regarding cultural resources issues, subject to approval by EA management. The chain of command in communication may be dependent on the particular issue at hand. The existing chain of command for the Combat Center is provided in Figure 4."

The Combat Center Commanding General, or his designee, will contact SHPO regarding the delegation of CRM responsibilities and staffing changes or vacancies. Notification of issues related to historic preservation compliance will be directed to the CRM who will address all communication regarding cultural resources issues, subject to approval by the EAD management. The chain of command in communication may be dependent on the particular issue at hand. The existing chain of command for the Combat Center is provided in Figure 2.

Staff Archaeologist

The Staff Archaeologist(s) are full-time positions staffed by individuals who meets the minimum professional qualification standard for Archaeology as defined by the Secretary of the Interior's Professional Qualification Standards (48 CFR 44716), and who have a general understanding of cultural resources management laws. These individuals and assist the CRM with all aspects of the cultural resources program.

Conservation Law Enforcement Officers (CLEO's)

CLEO's attend the Federal Law Enforcement Center Land Management Police Training in order to be issued Department of Interior, U.S. Fish and Wildlife Service Law Enforcement Officer credentials from the Commandant of the Marine Corps, Land Use and Military Construction

Branch (LFL). The CRM and Staff Archaeologist(s) work closely with CLEO's to protect and preserve cultural resources and assist in ARPA or NAGPRA violation investigations.

Environmental Affairs Division

There are two branches (Conservation Branch and Compliance Branch) within the Environmental Affairs Division (Figure 2). Cultural Resources Management (CR) is within the Conservation Branch. The NEPA manager is independent of these two branches and reports directly to the Deputy Director of the EAD. The NEPA manager reviews projects and prepare categorical exclusions or notifies the CRMP when a project must be reviewed by their office, facilitated by the online NEPA Process Automation Management Support (PAMS) module. The NEPA manager also provides oversight for the preparation of all EISs and EAs for the Combat Center. These reports which have the potential to include cultural resources and therefore must involve the CRMP staff in their preparation and/or review.

Public Works Division

The Public Works Division are responsible for facilities management including program management, architecture and engineering, and Real Property, and are often project proponents

for repairs, maintenance, or demolition that require review by the cultural resources program staff through a site approval process. The process is initiated by submitting a Request for Environmental Review (REIR) in NEPA PAMS for projects. The NEPA manager at EAD reviews the REIR in NEPA PAMS and notifies cultural resources program staff to review the REIR if the project has the potential to affect cultural resources. Once the REIR goes through the review process (which would also include other resources) and Section 106 consultation is completed (if required), then a Decision Memorandum (DM) documenting the NEPA categorical exclusion is issued and then the project proponent receives site approvals from PWD.

Range and Training Area Management Division

RTAMS develops, programs, implements, and manages a comprehensive range complex management plan, providing modernized, capable, and sustained ranges and training areas. Installation ranges and training areas will provide adequate, robust, and maintained training infrastructure and systems, supporting the Operating Forces, formal schools, and tenant commands' current and future requirements, pre- deployment training, and programs of instruction. Installation range and training area capabilities are inclusive of ground and air capabilities, and are integrated with DOD maritime capabilities. RTAMS participates in the same NEPA PAMS and site approval process as Public Works, by submitting REIR in the NEPA PAMS module.

MAGTF Training Command (MAGTFTC)

MAGTF Training Program conducts service-level MAGTF combined arms training in order to enhance the combat readiness of the operating forces and support the Marine Corps' responsibilities to Geographic Combatant Commanders. MAGTFTC trains more than one-third of the Fleet Marine Force (FMF) prior to overseas deployment in support of ground combat operations during live-fire combined arms training and numerous other training exercises during the year. In addition to the Combined Arms and Urban Warfare training, MAGTFTC supports training events, tests, and evaluations which may occur during the course of the year.

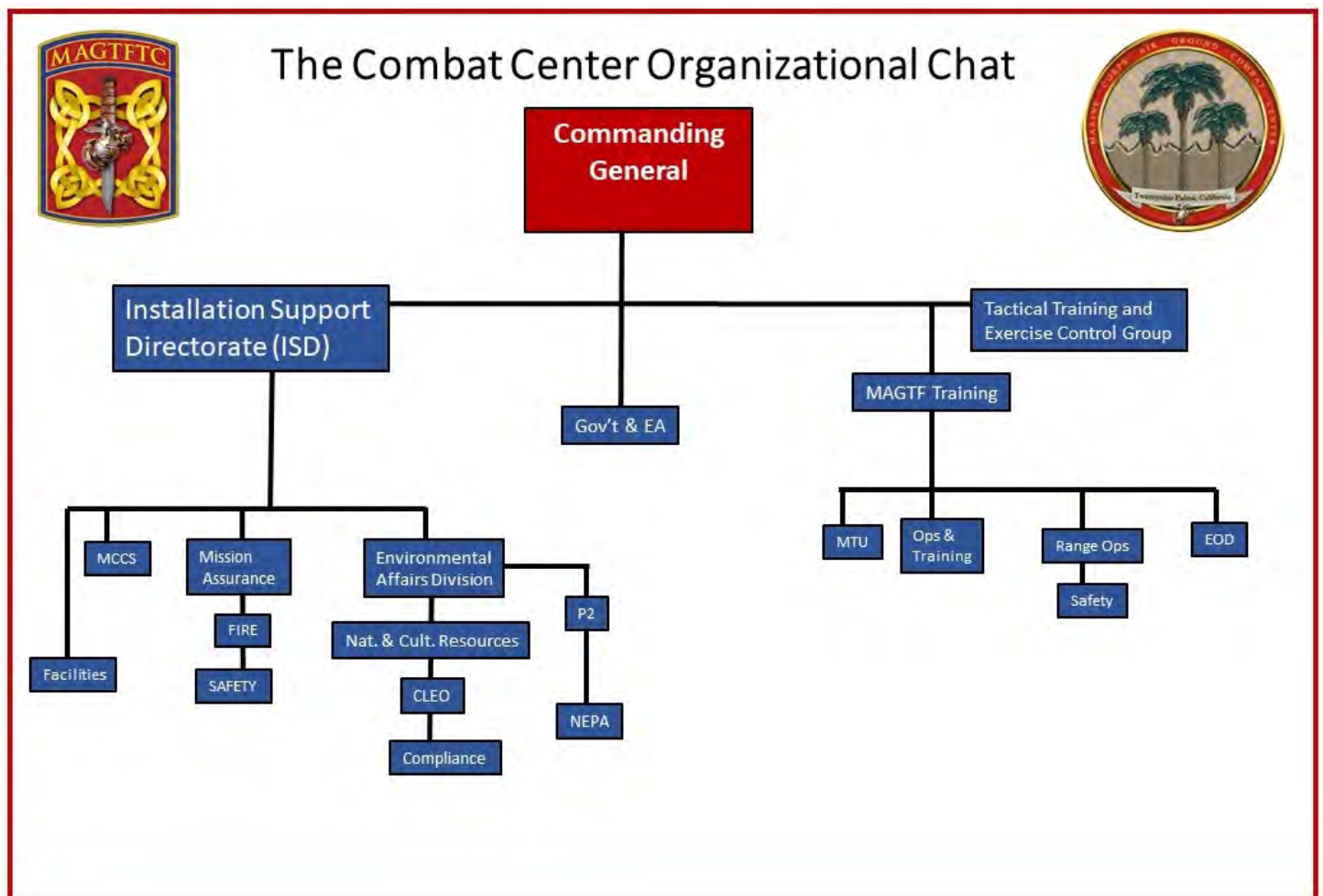


Figure 2: The Combat Center's Organizational Chart

Marine Corps Community Service

MCCS supplies recreational and family services aboard the Combat Center. Among the facilities and events MCCS manages the golf course, are recreation centers, fitness centers, Marine Marts, and gas stations among other services. MCCS participates in the same NEPA PAMS and site approval process as Public Works, by submitting REIR in the NEPA PAMS module.

1.6.2. Nonmilitary Participants

Nonmilitary participants include Native American tribes, California SHPO, ACHP, and other stakeholders. Their participation, which is required by regulations, is described in detail in Chapter 4. In summary, consultation with Native Americans includes government-to-government interactions related to the ownership, use, access, and disposal of properties of significance to Native Americans and as interested parties in consultation pursuant to the NHPA and NEPA (SOP No. 2). Non-Federally recognized tribes are consulted as interested parties, whereas federally recognized tribes (Section 4.4.2) are consulted in both instances. Consultation with the California SHPO is required for NHPA Section 106 implementation and the ACHP may be invited to comment on the Section 106 process. Other stakeholders include the Native American Land Conservancy, Joshua Tree National Parks, Bureau of Land Management (Barstow Division), local historic societies and other parties as deemed appropriate.

2. Installation Description

The Combat Center is located in southern San Bernardino County, California (see Figure 1), in the southern tip of the Mojave Desert, approximately 60 miles north-northeast of Palm Springs and 150 miles east of Los Angeles. The Colorado River and Parker Dam are approximately 125 miles east of the Combat Center. Several small communities are located south and west of the Combat Center in the Morongo Basin, including Twentynine Palms, Joshua Tree, Yucca Valley, Morongo Valley, and Landers. The Combat Center's northern boundary lies three miles south of Interstate 40, the southern boundary is located roughly three miles north of Highway 62, and the western boundaries comes within four miles of Highway 247.

With the signing of the National Defense Authorization Act (NDAA), the Combat Center expanded from approximately 600,000 acres (935 square miles) to its current footprint of 760,567 acres. Two large parcels were annexed: an 87,720.8-acre parcel (137 square miles) added to the west edge (now corresponding to the Bessemer Mine and Galway Lake TAs), and a 17,645.9-acre parcel (27.6 square miles) added to the southeastern edge (now corresponding to the Cleghorn Lake TA).

2.1. Physiographic and Environmental Setting

The Combat Center lies in the Basin and Range Province, which is characterized by numerous roughly parallel mountain ranges surrounding closed drainage basins (Figure 3). The topography of the area was created by movement along northwest-southeast trending fault systems. Topographically, the Combat Center consists of mountains, lava flows, playas, alluvial deposits of slope wash and coalescing fans in the valleys between the mountains, and aeolian deposits on the western slopes of the mountains. Prominent physiographic features include Sunshine Peak and Argos Peak in the Lava Bed Mountains, along with the Mesa, Round, Cross, Segundo, Rough, and Bullion peaks, and Lead Mountain in the Bullion Ranges. Lava flows dating to the Pleistocene epoch are present and include the Pisgah Flow at the northwest boundary, Amboy Flow at the northeast corner, and the lava flows in or near the Lead Mountain and Lavic Lake training areas.

The basins at the Combat Center are interior drainages and the main features of these interior drainages are playas or dry lakebeds that briefly hold water during the short periods of rain. In the past, however, some playas may have held permanent water during cooler and moister climatic cycles. Several playas are located throughout the Combat Center, including Deadman, Emerson, Lavic, Mesquite, Quackenbush and Dry lakes, and other, smaller unnamed lakes. The lake sediments contain well-sorted clay, silts, and fine sands that measure to a depth of 100 feet or more. Small dune systems, stabilized by mesquite or other shrubs, are often found at the margins of these playas. These playas provide evidence of the climatic changes that have occurred in the Mojave Desert during the past 10,000 years.

Extreme temperatures and low, variable rainfall are characteristic of the Mojave Desert region. Yearly temperatures range from approximately 25°F in January to as high as 120°F in August

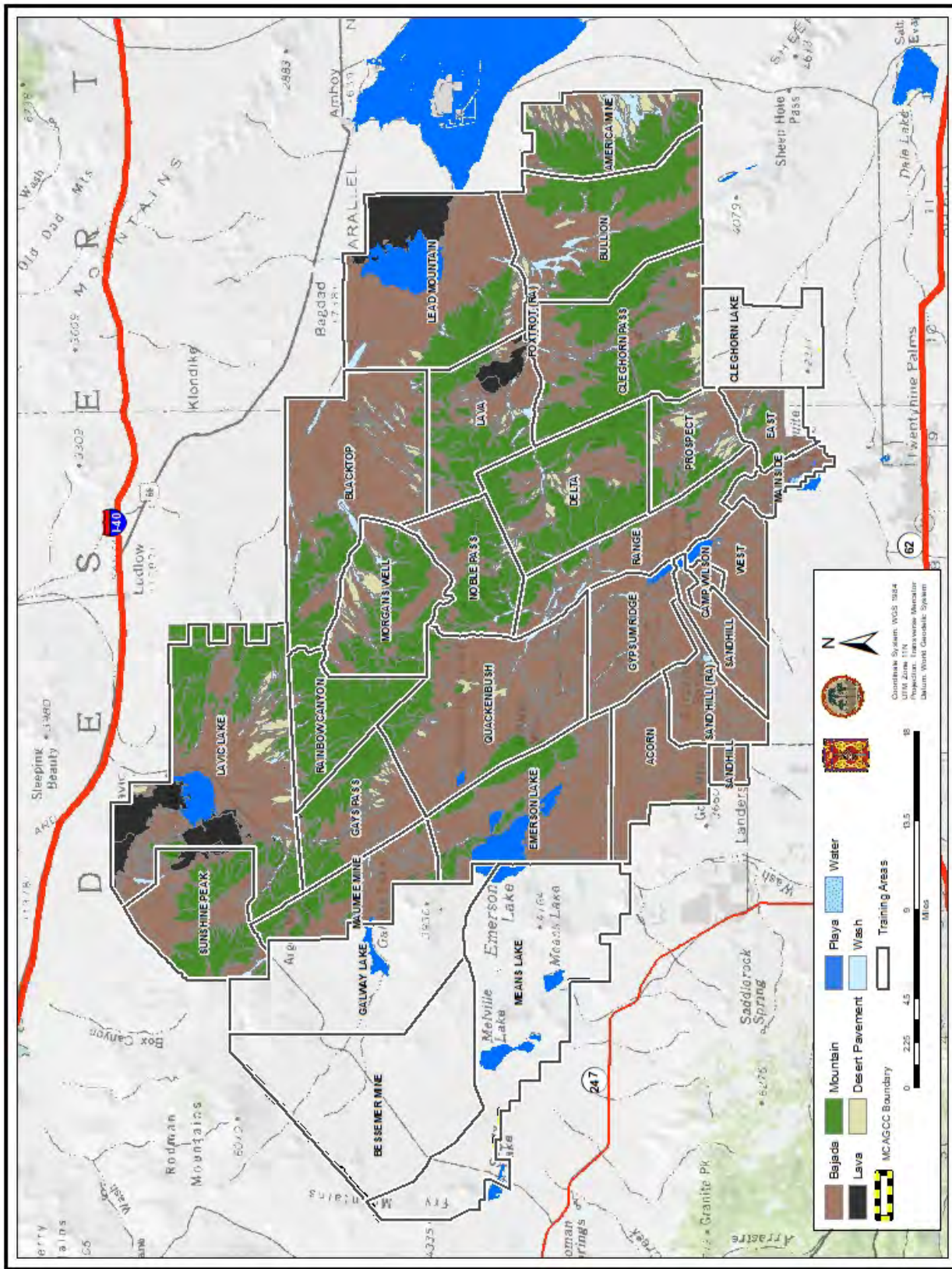


Figure 3: Combat Center map depicting land forms (no data for western expansion area)

and September. It is not uncommon, however, for mild winter days to be as warm as 80°F. Rain usually occurs in winter, but intense summer thundershowers are common. The Twentynine Palms area receives an average of 3 to 4 inches of rain per year. The mountainous areas in the region receive slightly more. Prevailing winds are from the northwest; however, winds can be extremely variable in direction and speed. Winds are generally calm to light in the morning, increase in the afternoon, and diminish in the evening. In the spring, strong winds of up to 45 knots may occur.

2.1.2. Floral and Faunal Communities

Typical Mojave Desert flora and fauna are species that are generally adapted to extreme high temperatures and aridity. Common plants include creosote, saltbush, and blackbrush scrub communities consisting of a variety of shrubs, grasses, herbs, and succulents. Saltbush and mesquite are present around playas and in proximate dunes, while catclaw acacia, smoke tree, bladderpod, and jimson weed are prevalent in ephemeral washes. Modern vegetation communities were established by 650 cal BP. Prior to this, cooler and wetter Late Pleistocene mid-elevation zones supported pinyon and juniper woodlands above 1000 meters, which were replaced by mesquite communities and desert thermophiles following gradual aridification at the Late Pleistocene/Early Holocene transition. The dominance of creosote was established by approximately 5400 cal BP (Koehler et al. 2005). Some larger mammalian species, such as mule deer and bighorn sheep, inhabit higher elevation mountainous regions in small numbers, though they were likely more abundant in the past. Coyotes, rabbits, desert rodents, various reptiles, birds of prey (various hawks and owls) and migratory birds are also present. Common prehistoric and contemporary flora and fauna are listed in Tables 3 and 4.

Table 3: Common Floral Communities prevalent at the Combat Center

COMMON NAME	SCIENTIFIC NAME
Blackbrush	<i>Coleogyne ramosissima</i>
Bladderpod	<i>Peritoma arborea</i>
Bladdersage	<i>Scutellaria mexicana</i>
Brittlebush	<i>Encelia</i>
Burrobush	<i>Ambrosia dumosa</i>
Catclaw acacia	<i>Senegalia greggii</i>
Cheesebush	<i>Ambrosia salsola</i>
Cholla	<i>Opuntia</i> sp.
Cottontop cactus	<i>Echinocactus polycephalus</i>
Creosote	<i>Larrea tridentata</i>
Fiddleneck	<i>Amsinckia</i> sp.
Goldenbush	<i>Ericameria</i>
Grass Family	Poaceae
Jimson weed	<i>Datura wrightii</i>
Joshua tree	<i>Yucca brevifolia</i>
Mallow Family	<i>Malvaceae</i>

COMMON NAME	SCIENTIFIC NAME
Mesquite	<i>Prosopis glandulosa var. torreyana</i>
Mesquite	<i>Prosopis juliflora</i>
Mexican cliffrose	<i>Purshia mexicana</i>
Mojave sage	<i>Salvia mohavensis</i>
Mormon tea	<i>Ephedra</i>
Peach thorn	<i>Lycium cooperi</i>
Range Ratany	<i>Krameria erecta</i>
Saltbush	<i>Atriplex</i>
Shadscale	<i>Atriplex confertifolia</i>
Single-leaf pinyon	<i>Pinus monophylla</i>
Smoke tree	<i>Psoralemmus spinosus</i>
Utah agave	<i>Agave utahensis</i>
Utah juniper	<i>Juniperus osteosperma</i>
White bursage	<i>Ambrosia dumosa</i>
Whitestem blazing star	<i>Mentzelia albicaulis</i>
Wolfberry	<i>Lycium andersonii</i>

Table 4: Common Faunal Communities of the Combat Center

COMMON NAME	SCIENTIFIC NAME
Antelope squirrel	<i>Ammospermophilus leucurus</i>
Bighorn sheep	<i>Ovis canadensis</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
Chuckawalla lizard	<i>Sauromalus obesus</i>
Common raven	<i>Corvus corax</i>
Coyote	<i>Canis latrans</i>
Desert cottontail	<i>Sylvilagus audubonii</i>
Desert iguana	<i>Dipsosaurus dorsalis</i>
Desert kit fox	<i>Vulpes velox</i>
Desert tortoise	<i>Gopherus agassizii</i>
Desert woodrat	<i>Neotoma lepida</i>
Gambel's quail	<i>Callipepla gambelii</i>
Ground squirrel	<i>Spermophilus mohavensis</i>
Kangaroo rat	<i>Dipodomys deserti</i>
Little pocket mouse	<i>Perognathus longimembris</i>
Migratory waterfowl	<i>Anas spp.</i>
Mojave green rattlesnake	<i>Crotalus scutulatus</i>
Mule deer	<i>Odocoileus hemionus</i>
Pocket gopher	<i>Thomomys bottae</i>
COMMON NAME	SCIENTIFIC NAME

Roadrunner	<i>Geococcyx californianus</i>
Sidewinder	<i>Crotalus cerastes</i>
Southern desert horned lizard	<i>Phrynosoma platyrhinos calidiarum</i>
Spotted bat	<i>Euderma maculatum</i>
Spotted skunk	<i>Spilogale gracilis</i>
Western diamondback rattlesnake	<i>Crotalus atrox</i>
White-footed mouse	<i>Peromyscus leucopus</i>

2.2. Military Land Uses

The Combat Center is the Marine Corps' largest combined-arms, live-fire training range complex that facilitates the intensive training required to develop combat instincts, innovation, and leadership skills. Over 20,000 active-duty Marines are stationed at the Combat Center with an additional 50,000 active-duty and reserve Marines, sailors, and other U.S. and allied forces training at the Combat Center each year. The Combat Center also supports 24,000 Active-duty military dependents (on and off base), and employees 21,000 DoD civilian and DoD contractors.

The Combat Center supports nine units and ten tenant commands. The nine supported units are: Headquarters Battalion, Marine Aviation Weapons and Tactics Squadron (MAWTS-1), Marine Corps Communication-Electronic School (MCCES), Marine Corps Logistics Operations Group (MCLOG), Marine Corps Tactics and Operations Group (MCTOG), Marine Corps Mountain Warfare Training Center (MCMWTC), Naval Hospital 29 Palms, and 23rd Dental. The ten Tenant Commands supported at the Combat Center are: 7th Marine Regiment, 1st Battalion 7th Marines, 3rd Battalion 7th Marines, 3rd Battalion 11th Marines, 1st Tank Battalion, 4th Tank Battalion, 3rd Light Armored Reconnaissance Battalion, Combat Logistics Battalion 7, Delta Company 3rd Assault Amphibian Battalion, and Marine Wing Support Squadron 374.

The most predominate types of land uses aboard the Combat Center are military training, base infrastructure, and mission support (including Mainside, Ocotillo housing, and Camp Wilson). Currently, the Combat Center includes 25 training areas, excluding Means Lake Shared Use Area (SUA), Sandhill Restricted Area (RA), and Foxtrot Restricted Area (RA) (Table 6). Many of the training sites and support facilities at the Combat Center are expeditionary in nature. Expeditionary training facilities are designed to be temporary to provide a realistic replication of a combat situation. These facilities and organizations include the Strategic Expeditionary Landing Field (SELF); the Exercise Logistic Coordination Center; the Assault Landing Zone (ALZ) Sandhill; observation posts (OP); radio repeater towers; Pre-designated Range Training Support Sites (PRTSSs), Fixed Ranges; Forward Operating Bases (FOBs), and Combat Outposts (COPs) (refer to CCO 3500.4) (Table 6).

Major MAGTFTC training events, tests, and evaluations that occur on the Combat Center during the course of a year include:

- Integrated Training Exercise (5x annually)

- Fire Support Coordination Application Course (annually)
- Steel Knight Exercise (annually)
- Desert Fire Exercise (twice annually)
- Desert Scimitar (as required)
- Tactical Air Control Party training (10x annually)
- Fallbrook and Barstow shoot
- Annual tank gunnery qualifications
- Independent air support training flights by Marine, Navy, Army, and Air Force aircraft
- Low altitude air defense firing exercises
- Air schools' proficiency training
- Joint airborne-air transportability training and aerial delivery mission
- Additional training needs and requirements of Marine Expeditionary Force tenant units located aboard the Base.

Table 5: summary of Training Area Acreage, maneuverable percentage. Uses, and number of days utilized

TRAINING AREA	ACRES	USES	# DAYS USED FY19	% NON-MANEUVER-ABELE
Acorn	17,369.3	Non live fire maneuvers	348	99%
American Mine	20,808.3	Patrolling, mortar fire, infantry training, light armored vehicle (LAV) training	201	68%
Bessemer Mine*	49,718.5	Staging area for combined arms exercises, Enhanced Mojave Viper, and other field maneuvers. Used to simulate austere conditions in a forward deployed area	N/A	93%
Blacktop	44,013.9	Live fire and/or maneuver area, used for tank gunnery, artillery, small arms training, major exercises	249	91%
Bullion	35,681.1	Aviation bombing and strafing, gunnery practice, artillery infantry maneuvers, Fixed Range 210	239	72%
Camp Wilson	1,700.9	Staging area for combined arms exercises, Enhanced Mojave Viper, and other field maneuvers. Used to simulate austere conditions in a forward deployed area. Permanent and temporary structures are located at the site	365	100%

TRAINING AREA	ACRES	USES	# DAYS USED FY19	% NON-MANEUVER-ABELE
Cleghorn Lake	17,645.9	RA and Artillery, ground-based live fire exercises	N/A	94%
Cleghorn Pass	36,338.0	Small arms, tank/ Amphibious assault vehicle gunnery, LAV live fire, maneuvers, 400 series Fixed Ranges and Range 500, bivouacking only west of grid 99 and south of grid 97	276	68%
Delta	29,791.0	Live fire maneuver and major exercises, transit corridor to other TAs	256	63%
East	8,263.1	Staging area for major exercises, non-live fire activities, live fire activities that impact in Delta and Prospect TAs, Fixed Ranges 100, 200, 215, and 215A	256	91%
Emerson Lake	32,286.7	Tank maneuvers, aerial bombardment and targetry, main transportation corridor to north-west TA's	254	88%
Foxtrot RA	742.9	----	---	99%
Galway Lake*	38,002.3		151	85%
Gays Pass	18,319.8	Artillery, ground-based live fire exercises	255	73%
Gypsum Ridge	18,265.1	Bivouac, wheeled vehicle maneuvers, artillery fire from Gypsum Ridge TA, occasional live fire demonstrations	356	98%
Lava	22,924.9	Battalion tactical training, both ground-based and combined ground/air live fire, artillery	224	77%
Lavic Lake	56,984.6	Primary training area for aviation training exercises, live fire maneuvers with major exercises	247	87%
Lead Mountain	45,791.9	Aviation, artillery, and ground-based live fire training	242	91%
Mainside	5,259.8	Cantonment	---	94%
Maumee Mine	16,140.8	Artillery and maneuver training exercises	229	84%
Means Lake SUA**	56,058.3	Aerial and/or ground-based live fire, tank maneuvers, infantry training, artillery	N/A	83%
Morgans Well	23,361.3		237	74%
Noble Pass	16,834.4	Aerial and/or ground-based live fire, tank/Amphibious Assault Vehicle maneuvers, infantry training, artillery	239	63%
Prospect	13,187.7	Battalion and company-level training, Range 205 and 205A	273	78%

TRAINING AREA	ACRES	USES	# DAYS USED FY19	% NON-MANEUVER-ABELE
Quackenbush	41,814.0	Artillery, ground-based live fire, aviation training, maneuvers, Range 220 (CAMOUT), Ranges 620 and 630 (Urban Arrays)	269	90%
Rainbow Canyon	16,569.0	Live fire maneuvers, artillery, Fixed Range 601 (Sensitive Fuse Impact Area off limits to all personnel)	234	68%
Range	20,161.4	Fixed Ranges and sensitive fuze ranges (Ranges 101, 102-114)	N/A	82%
Sandhill	11,904.3	Maneuvers, EAF, ESB, Assault Landing Zone (ALZ)	358	99.8%
Sandhill RA	11,801.2	Restricted access	---	99.7%
Sunshine Peak	22,860.3	Emergency ordnance drop zone	55	72%
West	9,966.5	Non live fire maneuvers, staging area for major exercises, Drop Zone (DZ), Ranges 102 (Land Navigation), Range 225 (non-live fire MOUT), Range 800 (IED range)	331	99.1%
TOTAL***	760,567			83%

*As of March 2020, Galway Lake TA contained 580 acres of private parcels and Bessemer Mine TA contained 100 acres of private parcels not open to military training. ** Means Lake SUA is open to military training up to two 30-day periods per year. ***Total TA acres includes Means Lake SUA.

Table 6: List of military ranges and observation points

Facility	USE
OP AMERICA MINE	Observation Point
OP ARGOS	Observation Point
OP BULLION	Observation Point
OP CRAMPTON	Observation Point
OP CREOLE	Observation Point
OP NOBLE	Observation Point
OP ROUND	Observation Point
R-051	Explosive Ordnance Disposal (EOD) Range
R-100	Squad Maneuver Range
R-101	Small Arms Battle Sight Zero (BZO) Range
R-102	Squad Maneuver Range
R-103	Squad Defensive Fire Range
R-104	Anti-Mechanized/ Grenade Range
R-105	Gas Chamber Range
R-105A	Small Arms BZO Range
R-106	Multipurpose Range Complex

R-107	Infantry Squad Battle Course Range
R-108	Infantry Squad Assault Range
R-109	Anti-Armor Live-Fire Tracking Range
R-110	MK-19 machine gun Range
R-110A	M-203 Qualification Course Range
R-111	Military Operations in Urban Terrain (MOUT) Range
R-112	Explosive Ordnance Disposal (EOD) Range
R-113	Multi-Purpose Machine Gun Range
R-113A	Small Arms BZO Range
R-114	Combat Engineer Demolition Range
R-200 MOUT TOWN	MOUT Town Range
R-205 (LIVE MOUT)	Convoy & Live-Fire Course Range
R-210 (LIVEMOUT)	MOUT Live-Fire Range
R-215 (UWTC)	MOUT Town Range
R-215 A	Tactical Explosion Site Range
R-220	CAMOUT Combined Arms town Range
R-225	Non-Live Fire MOUT Range
R-230(LIVEMOUT)	Live-Fire MOUT Range
R-400	Company Live-Fire & Maneuver Range
R-401	Company Live-Fire & Maneuver Range
R-410	Platoon Live-Fire & Maneuver Range
R-410A	Rifle Platoon Attack Range
R-500	Armored Live-Fire & Maneuver Range
R-601	Super Sensitive Fuse Impact Range
R-630	Combined Arms MOUT Range
R-700(RAPPELLING TOWER)	Helicopter suspension & Rappelling Range
R-701(O COURSE)	Fixed Range
R-702 (BLEACHERS)	Fixed Range Bleachers
R-703 (PNUEMATIC MORTAR RANGE)	Fixed Range
R-705 (CVOT)	Combat Vehicle Operator Training Course (CVOT) Range
R-705A	Combat Vehicle Operator Training Course (CVOT) Range
R-706	Improvised Explosive Device Range (IED) Range
R-800 IED TRAINING LANE	Fixed Range
R-800 VILLAGE 1 (TVCS)	Fixed Range
R-800 VILLAGE 2 (TVCS)	Fixed Range
R-800 VILLAGE 3	Fixed Range
R-MTU RANGE 1	Fixed Range
R-MTU RANGE 1A	Fixed Range

R-MTU RANGE 2	Fixed Range
R-MTU RANGE 2A	Fixed Range
R-MTU RANGE 3	Fixed Range
R-MTU RANGE 3A	Fixed Range

2.3. Activities that May Affect Cultural Resources

New construction, maintenance, and repair of existing support facilities and infrastructure are constant activities on the Combat Center. These activities have potential to impact cultural resources. In addition, unauthorized use of the Combat Center, such as unauthorized Off-Highway Vehicle use and illegally collecting military materials, poses a threat to cultural resources (see figure 2 for all main roads aboard the Combat Center).

Current and future activities at the Combat Center have the potential to affect cultural resources eligible for the NRHP. These activities include a variety of training, construction, and maintenance programs, which cause differing degrees of disturbance and are often undertaken under accelerated schedules. Such effects could be adverse effects under Section 106 of the NHPA when an undertaking may directly or indirectly alter the characteristics of a historic property that qualify it for listing in the NRHP. Several terms require definition to fully understand the identification of adverse effects:

Undertaking: defined by the NHPA as 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)). Identifying and describing an undertaking 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.

Historic property: defined by NHPA as 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.

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)).

Area of Potential Effect (APE): defined by the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. (36 CFR 800.16(d)).

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

Adverse effects on historic properties include, but are not limited to:

- Physical destruction or damage to all or part of the property
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary of Interior's standards for the treatment of historic properties (36 CFR 68) and applicable guidelines
- Removal of a property from its historic location
- Change of the character of a property's use or of physical features in a property's setting that contribute to its historic significance
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of a property's significant historic features
- Neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to a Native American organization
- Transfer, lease, or sale of the property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance (36 CFR 800.5[a][2])

2.3.1. Archaeological Sites

Archaeological sites could suffer from adverse effects when the qualities that make them significant (i.e., eligible for the NRHP) are degraded or destroyed, particularly by actions that adversely affect their physical integrity (see figure 3). Typically, ground surface-disturbing activities are considered the greatest threat to archaeological resources. The following are activities that have the potential to adversely impact archaeological sites:

- Routine Ground Maneuver Training Off of Established Roads: Battle skills training that involves ground disturbing activities including vehicular ground navigation, bivouac, heavy weapons firing, and communications and radar/ground-to-air control training can potentially impact sites when setting up a perimeter.
- Temporary Field Excavations: Excavation of fighting positions, field kitchens, and radio antennae grounding pits all affect the ground surface, as varying types of excavation are required.

- Unexploded Ordnance Disposal In-Place: In-place detonation and disposal of unexploded ordnance found aboard the Combat Center that is unsafe to move for proper disposal.
- Aviation Mishaps: Aircraft impacting the ground and associated emergency response and clean-up activities can result in ground surface disturbance.
- New Construction/Major Facility Repair and Maintenance: New construction or non-routine repairs, especially if earth-moving activities are required.
- Wheeled and Tracked Vehicle Operations: Amphibious assault vehicles (AAV), Tanks, Humvees, LVSs, LAVs, and 5- and 7-ton trucks all use paved and dirt road surfaces. Bulldozers, graders, and skip loaders, etc., are transported to construction work areas with rubber tire vehicles for firebreak maintenance. These tracked vehicles would impact archaeological sites only if they leave the established roads (paved and dirt road surfaces).
- Non-Routine Road Maintenance: Activities relating to the construction, modification, or repair of roads, parking lots/staging areas, trails, stream crossings, and other surface features associated with mechanized or foot travel, if work is conducted outside of previously disturbed areas.
- Security: The introduction of perimeter security controls, such as fencing and gates, earthen berms, and dense plantings, can adversely affect archaeological sites and archaeologically sensitive areas. These activities generally require the excavation of soil and leveling of contours, actions that are destructive to archaeological resources since they remove soil and destroy the integrity of the deposits
- Land/Soil/Vegetation Restoration: Restoration activities that require seed-bed preparation, except on severely eroded or previously developed sites.
- Firefighting and Firebreak Construction: Firefighting activities usually require off-road vehicular travel, often with heavy and/or tracked equipment, which can pose a threat to cultural resources that cannot be completely avoided, particularly for wildfire suppression.

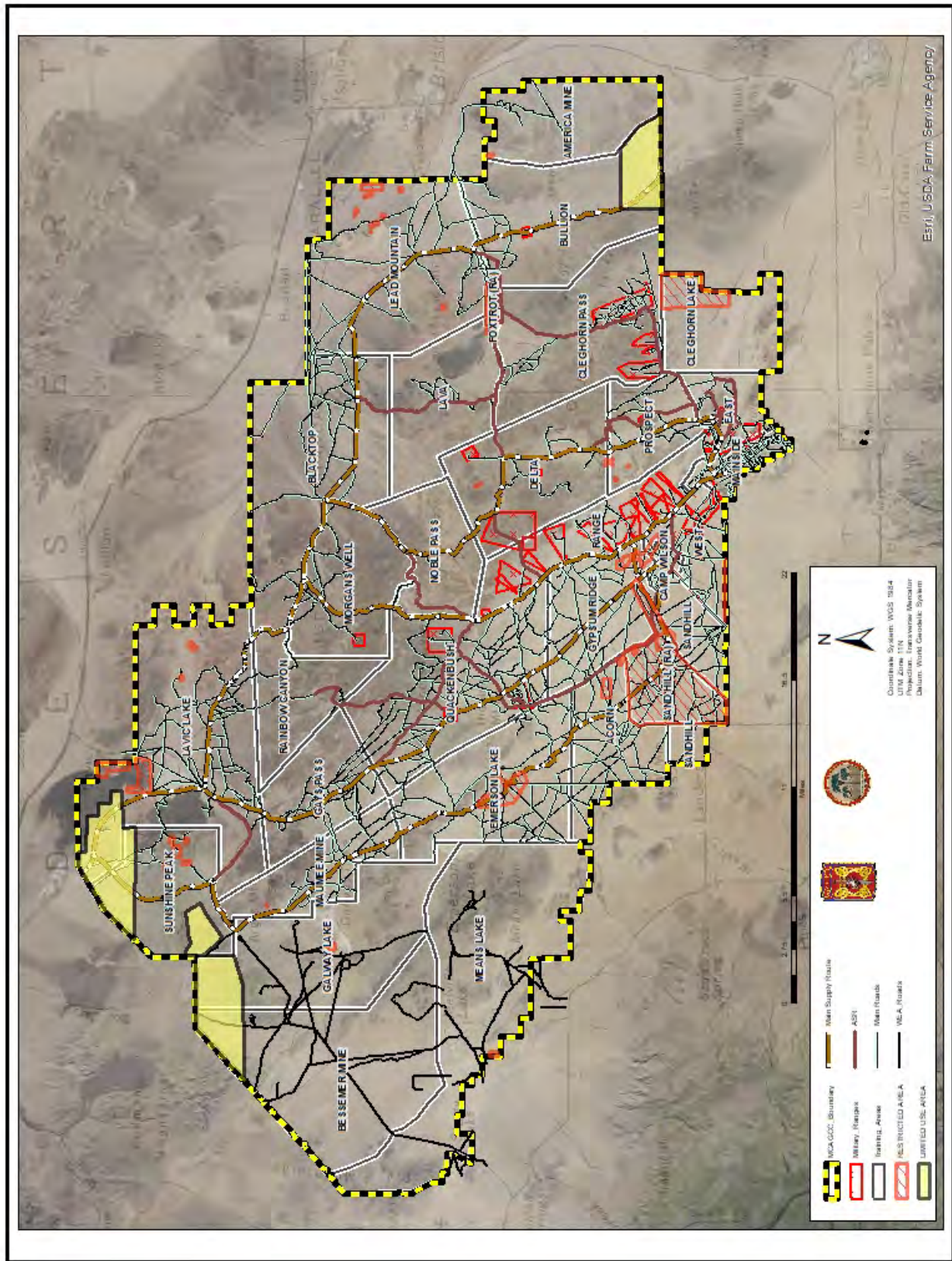


Figure 4: Combat Center Map depicting most major roads through TAs

2.3.2. Historic Buildings and Structures

Like archaeological sites, historic buildings and structures suffer from adverse effects when the characteristics or attributes that make them significant are altered or destroyed. Activities that may impact historic resources include:

- New Construction: New buildings, parking lots, or recreation facilities may be constructed in historically (or archaeologically) sensitive areas
- Building Maintenance: May alter the character of buildings, structures, and landscapes that are historic
- Changes in Uses of Buildings: May result in an alteration of character
- Facilities Closures and Transfer of Property: Especially to non-Federal owners who do not have the same compliance requirements as Federal agencies
- Energy Conservation Retrofitting: Can impact historic buildings or structures if these alter the characteristics of the building
- Hazardous Materials Removal: Can impact historic buildings, structures, and archaeological sites in a project area of potential effect

2.3.4. Categorical Exclusions and Exempt Undertakings

Consistent with 36 CFR 800.8(a) and 800.8(b), all actions categorically excluded under NEPA with the potential to affect cultural resources are reviewed by the CRM to determine if the action meets the definition of an undertaking requiring review per 36 CFR 800.3(a). If the CRM determines that the action is an undertaking and has the potential to affect historic properties if they were present, then further review will be conducted by the CRM. If the undertaking is in an area not previously inventoried for historic properties, an inventory will be completed in the area of potential effects (APE) to identify historic properties before the implementation of an undertaking.

3. Cultural Resources Overview

Cultural resources located aboard the Combat Center fall into the following chronological frameworks: Prehistoric Context including Terminal Pleistocene, Early Holocene, Middle Holocene, Late Holocene; Ethnographic Context; and Historic Context including the Spanish Period, Mexican Period, and American Period (see Leadabrand 1966; O’Neal 1957). The built environment resources fall into the following chronological time periods: American Period for the buildings and structures built before the USMC acquired the property in 1942, and American Period after USMC acquisition of the land including WWII era (1942-1945), post-WWII era (1946-1949), Korean War era (1950-1953), post-Korean War era (1954- 1962), Vietnam era (1963-1975), and Modernization/End of Cold War (1976-1989). The following section provides the prehistoric, ethnographic, and historic contexts for these cultural resources, along with a summary of the resources present. Table 7 summarizes the known cultural resources aboard the Combat Center. Appendix 8 includes a table providing a complete list of previous studies at the Combat Center.

Table 7: Overview of Cultural Resources and Surveys

TRAINING AREA	Acres Surveyed	% of TA Surveyed	# of Archaeological Sites	% of Total Sites Inventoried
Acorn	17,291	99%	92	3%
American Mine	3,241	15.5%	3	<1%
Bessemer Mine	43,726	89%	77	<1%
Blacktop	29,135	66%	288	10%
Bullion	16,123	45%	2	<1%
Camp Wilson	1,700	99.9%	23	<1%
Cleghorn Lake	13,944	79%	8	<1%
Cleghorn Pass	8,259	23%	9	<1%
Delta	5,510	18.4%	6	<1%
East	5,014	60%	4	<1%
Emerson Lake	26,879	83%	260	9%
Foxtrot RA	742.6	99.9%	8	<1%
Galway Lake	25,993	68%	86	3%
Gays Pass	9,627	52%	25	<1%
Gypsum Ridge	17,920	98%	74	2%
Lava	11,846	52%	199	7%
Lavic Lake	40,122	70%	298	11%
Lead Mountain	34,599	75%	198	7%
Mainside	2,008	38%	4	<1%

TRAINING AREA	Acres Surveyed	% of TA Surveyed	# of Archaeological Sites	% of Total Sites Inventoried
Maumee Mine	12,345	76%	21	<1%
Means Lake SUA	44,169	79%	139	5%
Morgans Well	11,472	49%	130	5%
Noble Pass	5,617	33%	57	2%
Prospect	2,922	22%	14	<1%
Quackenbush	35,253	84%	361	14%
Rainbow Canyon	5,070	30%	38	1%
Range	7,450	25%	45	1%
Sandhill	9,146	77%	29	1%
Sandhill RA	10,400	88%	24	<1%
Sunshine Peak	9,796	42%	63	2%
West	8,393	84%	40	1%
TOTAL	441,113.6	58%	2630	

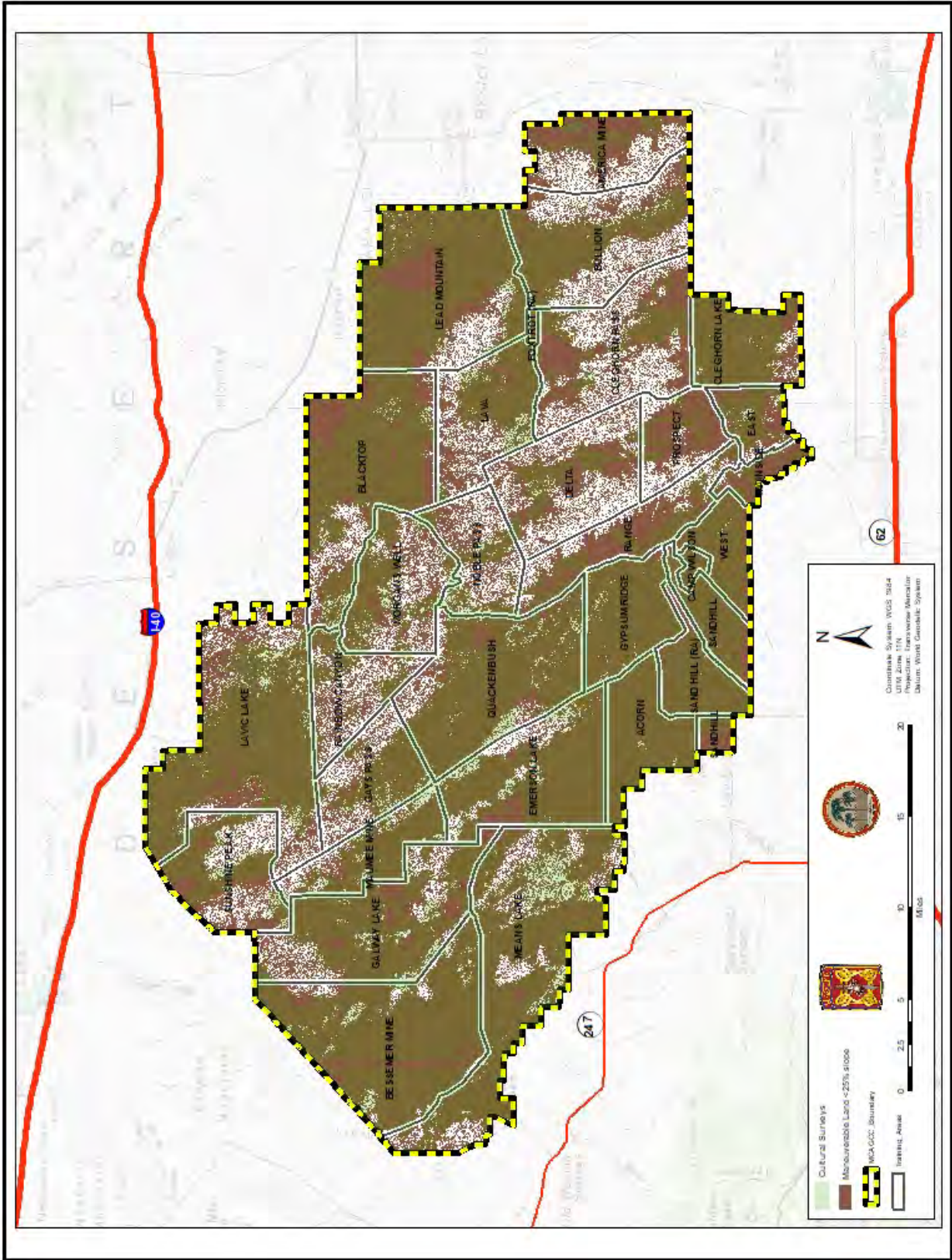


Figure 5: Map depicting cultural surveys overlaying military maneuverable lands

3.1. Ethnographic Context

Since time immemorial, before the arrival of European settlers, the indigenous people of California lived in accordance with the environment, holding sacred everything the land provided (San Manuel Band of Mission Indians, 2020). At the time of European contact, the Twentynine Palms region was inhabited by at least four ethnographic groups: Serrano, Chemehuevi, Mojave and Cahuilla (Bean and Smith 1978; Kelly and Fowler 1986; Kroeber 1925). These groups were hunter-gatherers comprised of small, highly mobile groups who followed the seasonal availability of plant and animal resources. The Mojave people had trails and settlement sites in this area of the Mojave Desert, as is evidenced by some of the rock art found at the Foxtrot Petroglyph Site which is of Mojave origin. As noted in the 2002 ICRMP, ethnographic research was conducted to further clarify the presence and usage of the lands currently occupied by the Combat Center by various Native American groups (Baksh and Hilliard 2005).

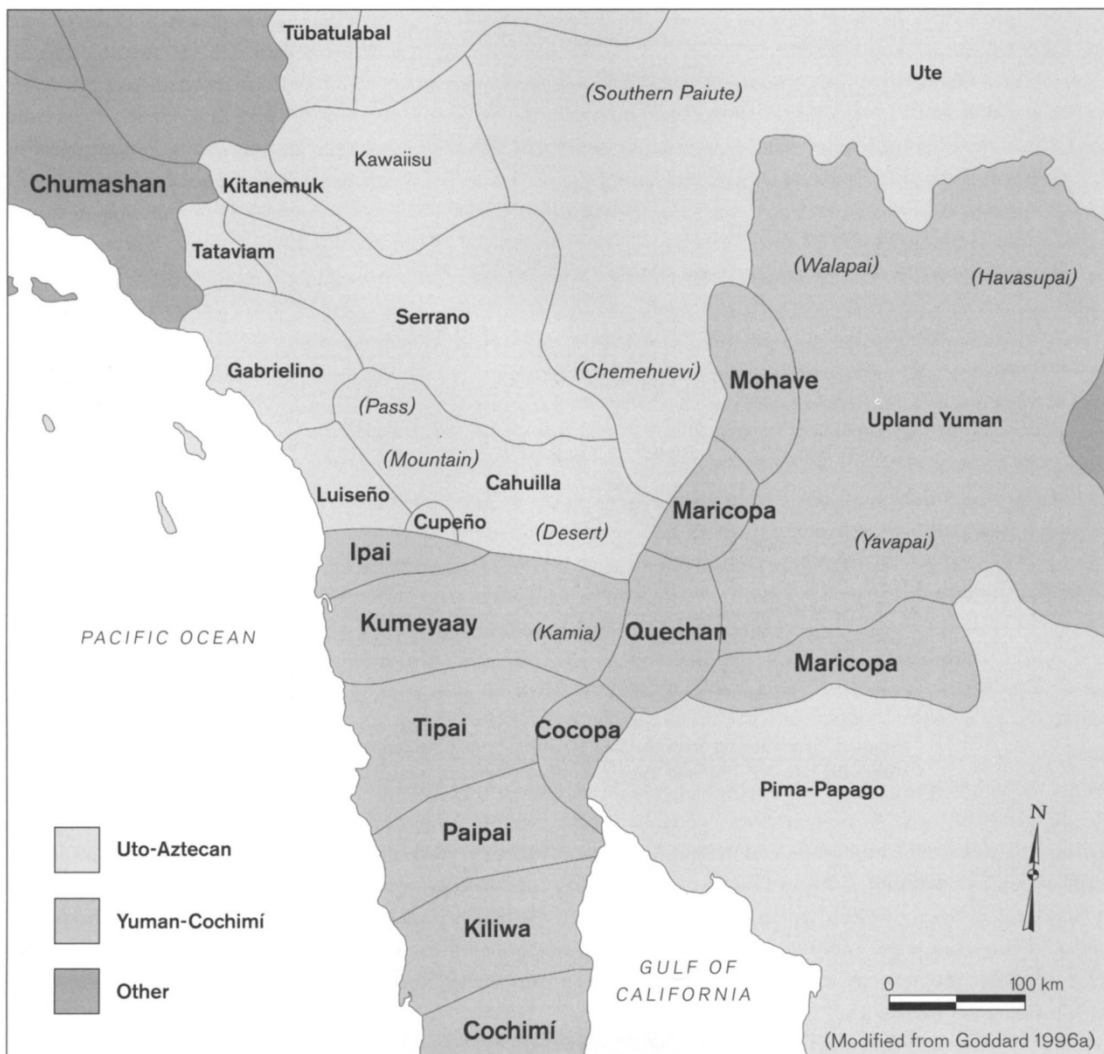


Figure 6: Ethnohistoric distribution of languages in the Colorado Desert and surrounding regions (Laylander 2010)

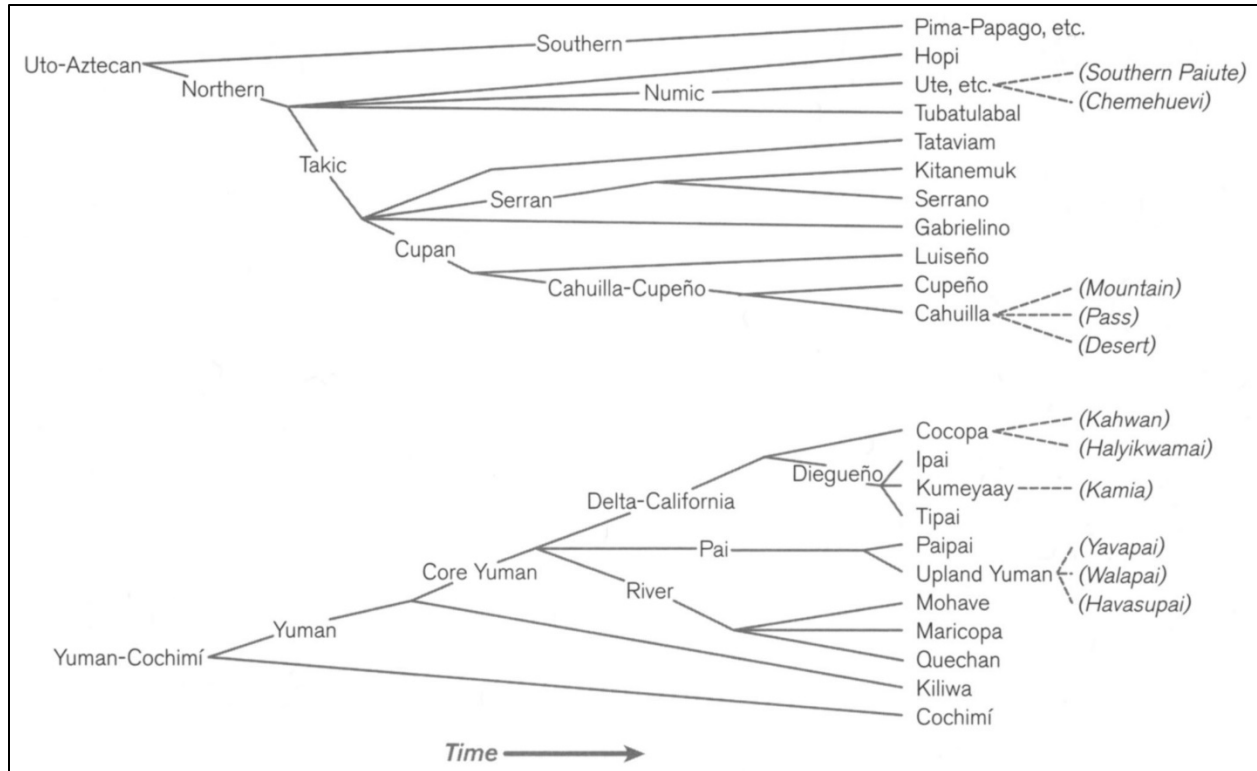


Figure 7: Tree depicting hypothesized linguistic branching of Uto-Aztecan and Yuman families (Laylander 2010).

Serrano

The term Serrano refers to an ethno-linguistic group that occupied the San Bernardino Mountains and the Mojave River east of Cajon Pass. The Serrano language is part of the Takic family of the Uto-Aztecan linguistic stock (Shiple 1978). Serrano people call themselves by a number of names, for various Serrano tribes living in different geographic locations within their ancestral territory. The Serrano occupied the Antelope Valley, Cajon Pass, Mojave River north of Cajon Pass, San Bernardino Mountains, Morongo Valley, and the area around Twentynine Palms. The Serrano are collectively the People of Maara', and originate within the Oasis of Maara' at Joshua Tree National Park (personal communication, J.Mauck, Sept. 1, 2020).. Other names for the Serrano also exist including *Marringa'yam*, *Mudya'um*, or *Marheeyum* meaning (Trafzer 2002) "people from Morongo." Those Serrano who lived at *Yuhaaviat*, an area of pine trees near present day Big Bear Lake where the creator died, were called the *Yuhaaviatam* or the People of the Pines (San Manuel Band of Mission Indians, 2020).

The majority of Serrano settlements were located in the foothills of the San Bernardino Mountains and along the Mojave River; a few were located near permanent water sources on the desert valley floor (Bean and Smith 1978). Serrano groups from the desert seasonally traveled to the foothills to collect nuts (pinyon and acorns), hunt large game (primarily mountain sheep), and trade desert products (honey mesquite, yucca roots, cactus fruits, and small game) with foothill Serrano for resources unavailable in the desert (Bean and Smith 1978; Kroeber 1925; Strong

1929). Some researchers (Hall and Schultze 1998; King 1977; VanDyke 1990), however, characterize the Serrano subsistence settlement pattern as seasonal exploitation of desert and upland environments, rather than separate populations principally exploiting desert or upland environments.

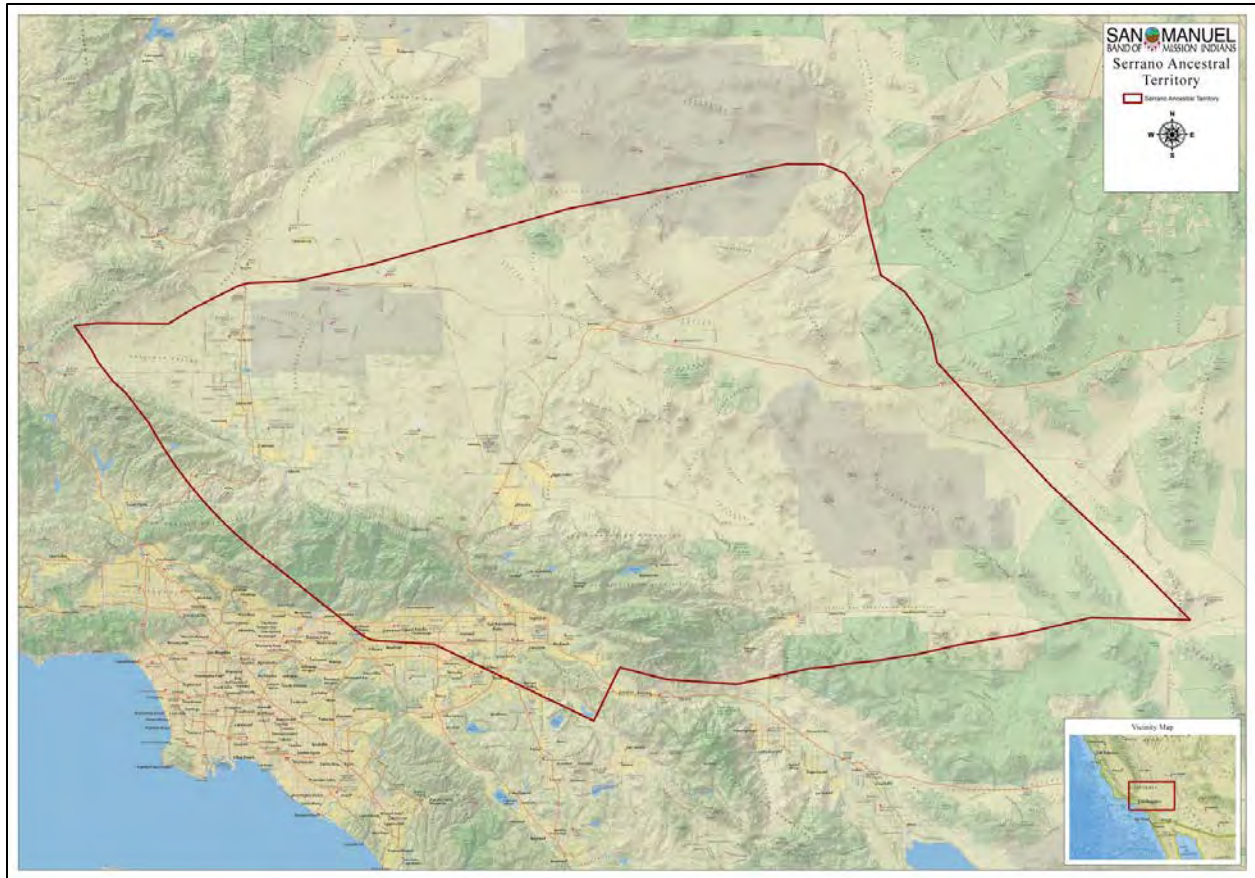


Figure 8: Serrano Ancestral Territory (San Manuel Band of Mission Indians, 2020)

There are six known types of Serrano structures. The family dwelling was a circular domed structure made from tule thatching over a willow frame. Family dwellings had a central fire pit and served as sleeping and storage space for a nuclear or small extended family. A similar structure was occasionally constructed in the mountains for individual use. A ramada, constructed of four wooden supports and a willow thatch roof, was used for shaded outdoor workspace (Benedict 1924; Bean and Smith 1978:571; Kroeber 1925).

Large ceremonial houses were present at most major villages, which served as the religious center for the clan and residence of the clan head (Bean and Smith 1978; Strong 1929). Sweathouses were earth-covered, semi-subterranean, circular structures, supported by willow-pole frames and located next to streams or springs where possible (Bean and Smith 1978). The Serrano also built granaries, which were basketry storage units on raised poles (Kroeber 1925).

Serrano material culture is varied and includes elaborately decorated objects, most notably pottery (Heizer and Elsasser 1980:52). Most items were made from wood, stone, shell, bone, animal fur, and plant fibers, and include rabbit-skin blankets, bows and arrows, stone pipes, fire drills, awls, arrowshaft straighteners, musical instruments (deer-hoof rattles, tortoise and turtle shell rattles, flutes, bone whistles), mats, storage bags, cordage, nets, and feathered costumes (Bean and Smith 1978:571).

The Serrano organized themselves into exogamous clans, which were the largest autonomous political and land-holding units. The core of each clan was the patrilineage, comprised of all males descended from a common male ancestor and their wives and descendants. Clans allied themselves with one of two moieties, or ceremonial groups, who had reciprocal ritual responsibilities. Moieties also served as the basis for restricting marriage; clans from the same moiety were not allowed to intermarry. The Serrano social structure appears to have been arranged along the reciprocal economic, ceremonial, and marital relationships facilitated by the moiety organization. The Serrano also formed alliances with other southern California Native groups, most notably the Chemehuevi (Bean and Smith 1978; Strong 1929).

The Serrano were impacted little by the Spanish presence in southern California until about 1819 when an *asistencia*, or mission outpost, was established near Redlands. After this time, most of the western Serrano were removed to Mission San Gabriel. Depredations to eastern groups were reportedly less severe, and many Serrano escaped into the desert, eventually residing at the

Morongo Reservation, which was established in 1877. By 1975, the majority of Serrano lived on the Morongo and San Manuel reservations (Bean and Smith 1978:573).

According to Serrano beliefs, "the Serrano world emerged at the beginning of time when creative forces shaped the origin and movement of the earth." According to Serrano scholar and respected tribal elder Ernest Siva, "everything was alive in the beginning", and all "plants animals, and rocks were people before they were changed over by the Creator." Today, the Serrano remember their heritage through stories and songs, which "constitute traditional 'law' that guided the people" (Trafzer 2002).

Chemehuevi

The Chemehuevi, or *Niwü* (meaning "the people") are eastern neighbors of the Serrano, and occupied areas adjacent to the Colorado River and the Mojave Desert as far west as Twentynine Palms (Kelly and Fowler 1986:368, 388). Small groups of Chemehuevi lived throughout the Mojave Desert between the Colorado River and the contemporary town of Twentynine Palms. Throughout time, Chemehuevi had traveled to and through the Oasis of Mara before settling at the site in the 1860s. Before Chemehuevi made the Oasis their permanent home, Serrano, Cahuilla, and other Indians lived in the area and used the desert landscape for hunting and gathering. For many years, the Chemehuevi lived in a traditional manner at the Oasis of Mara, which was abundant in native food. They also brought their farming skills to the Oasis, cultivating a large garden that they irrigated with water from the Oasis. They lived peacefully with the Serrano until the late nineteenth century when miners and cattlemen moved into the area (Twenty-Nine Palms Band of Mission Indians, 2015).

The Chemehuevi people are the Enugwuhype, or ancestral Numic people that belong to one of 16 identifiable Southern Paiute groups that belong to the southern Numic branch of the Uto-Aztecan language (Kelly and Fowler 1986; Miller 1986; Trafzer 2015).

The Chemehuevi people traveled great distances through the Great Basin, the Southwest, and the Pacific coast since the Pleistocene era. The marriage laws for the *Niwi* required "people to marry six generations removed" so the Chemehuevi "married widely, taking husbands and wives from many Southern Paiute groups as well as from Cahuilla, Hopi, Luiseño, Mojave, Navajo, Yavapai, and tribes located in present-day northern Mexico" (Trafzer 2015). Chemehuevi people have a strong spiritual relationship with the natural environments of California, the Great Basin, and the Southwest; "they always have. They are tribal people tied to the land. In a very real sense, the earth is their religion and their religion is the earth" (Trafzer 2015).

The Chemehuevi subsisted by foraging and engaging in some agriculture where water was available (Heizer and Elsasser 1980; Kelly and Fowler 1986; Moratto 1984). They gathered various seeds, Joshua tree flowers, cactus fruit and flowers, mesquite, and pinyon nuts. The Chemehuevi hunted rabbits, kangaroo rats, snakes, chuckwallas and other lizards, tortoises, and bighorn sheep (Heizer and Elsasser 1980:51-52; Kelly and Fowler 1986:370-371).

Chemehuevi structures included a gabled house fashioned from willow and arrow weed covering a framework of horizontal and vertical poles. The structure was often covered with earth and lacked a front wall. Winter residences were sometimes established in caves. Like other Southern Paiute groups, the Chemehuevi reportedly built shade structures and windbreaks. Structures associated with agricultural activities included granaries and field houses, which were used as temporary residences while harvesting and planting crops. These field houses resembled the gabled house, but were of somewhat lighter construction (Kelly and Fowler 1986:371-372).

Chemehuevi material culture is similar to other Southern Paiute groups and to the Mojave Indians, who lived along a portion of the Colorado River. Chemehuevi pottery resembles Mojave ware, and was fashioned using stone temper, painted decoration, and the paddle-and-anvil technique. Pottery forms included cooking pots, seed pots, water jars, and scoops (Kelly and Fowler 1986:377). Basketry types included conical burden baskets, winnowing and sifting trays, seed beaters, cradles, water jugs, and hats. Baskets were generally twined, although Chemehuevi sifting trays were also coiled (Kelly and Fowler 1986:375). Bedding and capes were made from rabbit and other fur, with the hides scraped by a sharpened deer or bighorn sheep bone tool. Cordage included bowstring, twine, netting, and rope. Hunting was accomplished with a bow and arrow, and seeds and plant foods were processed on a stone metate.



Figure 9: Large territory used by Chemehuevi people (Trafzer 2015)

Other tools included stone knives, wooden chisels, wooden dibbles (for planting seeds), and a flat stick or “spade” (Kelly and Fowler 1986:370-371, 375).

The basic organizational unit of the Chemehuevi was the nuclear family. A few, or several, nuclear families often traveled as a group when foraging and returned to a shared residence usually located at a spring or agricultural settlement. Springs were commonly regarded as private property and were inherited. Chemehuevi men inherited the right to hunt large game within certain tracts of territory (Kelly and Fowler 1986:370, 380).

Chemehuevi spiritual beliefs included the practice of shamanism by both men and women. A shaman cured disease by sucking and restored lost souls to patients (Kelly and Fowler 1986). The shaman gained power through dreams in which a tutor, usually in animal form, taught the shaman songs and techniques (Laird 1976:38). A shaman also specialized in curing rattlesnake bites, controlling the weather, and assisting in childbirth (Kelly and Fowler 1986). Paraphernalia associated with shamanism included a crooked cane (Laird 1976:31), paint, and tobacco (Stewart 1942:315). The Chemehuevi conducted many ceremonies surrounding occasions of death (including cremation, property destruction, and a mourning ceremony sometimes called the Cry), hunting, and puberty (Kelly and Fowler 1986:373; Kroeber 1925; Laird 1976).

After a violent dispute with the Mojave in 1867, the Chemehuevi used the Twentynine Palms area more extensively than they had prior to the conflict. At this time, the Chemehuevi separated into small groups and dispersed into the Mojave Desert, joining Cahuilla or Serrano groups. One such small group traveled to the Twentynine Palms area, which the Serrano had temporarily vacated. When the Serrano returned to Twentynine Palms, the two groups coexisted peacefully (Bean and Smith 1978; Kelly and Fowler 1986; Kroeber 1925; Miller and Miller 1980). After the United States acquired California from Mexico (1848), many Chemehuevi were placed on reservations at Twentynine Palms and Banning (Bean and Smith 1978; Eargle 1986).



Figure 10: An adaptation of the Salt Song Trail Map designed by Dana F. Smith and Philip M. Klasky (copyrighted by the Salt Song Trail Project in 2009. The complete version may be obtained through The Cultural Conservancy at www.nativeland.org). The white arrows in the Storyscape Map illustrate a loosely defined circuit around the lower Colorado River region, beginning and terminating near the confluence of the Bill Williams and Colorado rivers at the south edge of the black circle defining the vicinity of the project study area, Standard Basin. The existence of the trail through the region within the red square is examined.

The Salt Songs are powerful songs that unties their people and ties a wide geographic location together through these songs. They are "sacred songs of the *Nuwuvi* and are used at memorial and other ceremonies, for cultural revitalization and as a spiritual bond for the Southern Paiute people living in the Southwest. The songs describe a physical and spiritual landscape of the Colorado Plateau, painted deserts and river valleys, and the Salt Song Trail traces the journeys of ancestral peoples to historic, spiritual and sacred sites." (The Cultural Conservancy, 2020)

Mojave

The Mojave Indians are *Pipa Aha Macav* - "The People by the River". The Mojave culture traces the earthly origins of its people to Spirit Mountain, the highest peak in the Newberry Mountains, located northwest of the present reservation inside the Lake Mead National Recreation Area (Fort Mojave Tribe, 2020).

The Mojave people traditionally occupied lands along the Colorado River in Arizona, California, and Nevada. Their principal residence is in the Mojave Valley, which is the location of the Fort Mojave Indian Reservation, although some live at the Colorado River Indian Reservation in Parker. The Mojave language is part of the Yuman language family of the Hokan linguistic stock (Kroeber 1925). It is related to the language spoken by Quechan (Yuma Tribe) and the Cocopa found along the southern Colorado River as well as the Kumeyaay (Kamia and Diegueño) of Imperial and San Diego counties in California. They are also related to the Maricopa located near Gila Bend in Arizona, but who were formerly found near the confluence of the Gila and Colorado rivers before being driven out by their enemies, the Quechan.

The Mojave Tribe ranged far and wide. They frequently allied with the Quechan to war with the Maricopa and Pima/Papago Tribes of Arizona as well as the Cocopa and Hohuana of the lower Colorado River. After the Mojave drove the Halchidhoma out of the country around Parker and

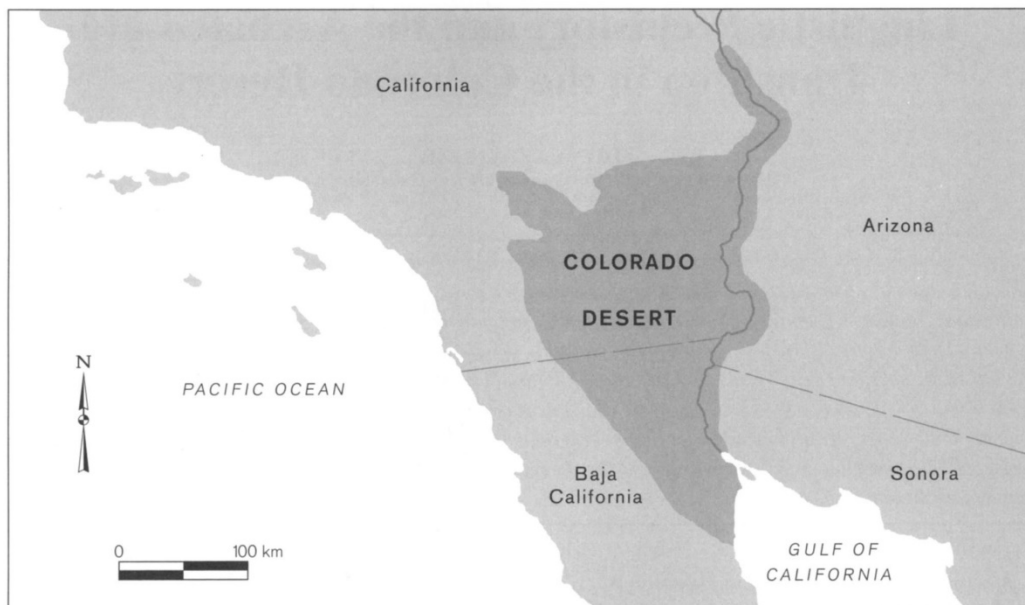


Figure 11: Location of Colorado Desert and Mojave ancestral territory (Laylander 2010)

below, the Chemehuevi moved into the region that subsequently became known as Chemehuevi Valley (Kroeber 1925:727). While the Mojave warred with tribes along the Colorado River and in Arizona, they did not wage war on the peoples to the west. They were on friendly terms with the Chemehuevi and the Serrano and frequently moved throughout areas typically associated with these desert and mountain tribes. They visited and traded with the Chumash along the Santa Barbara coast and the Yokuts of the Central Valley, and were well known in the Tehachapi Mountains.

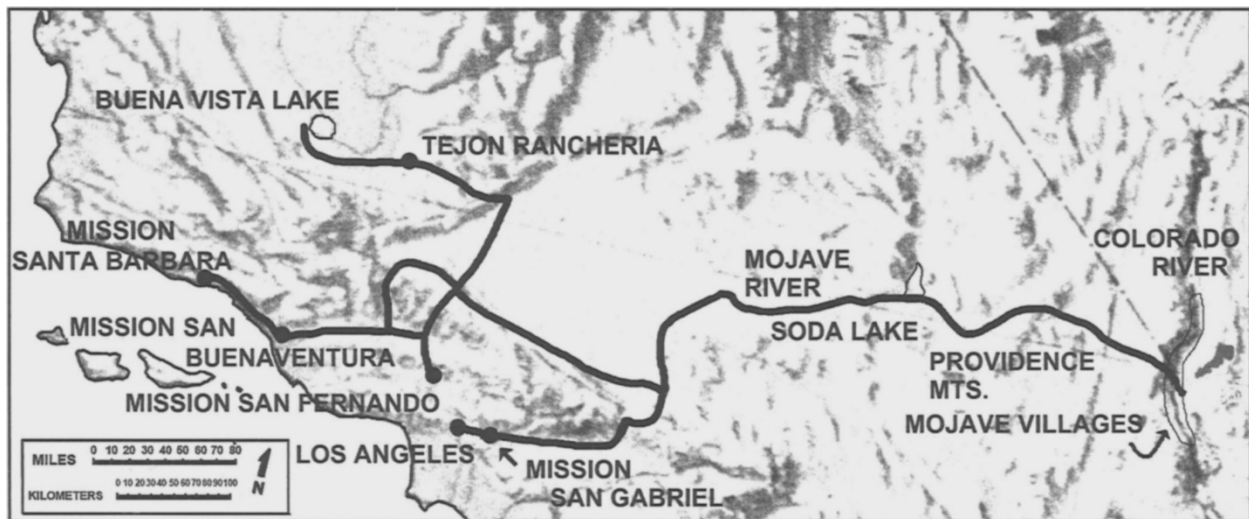


Figure 12: Late 18th and early 19th century Mojave trade routes potentially used for thousands of years (Earle 2005)

The Mojave, unlike many of their neighbors, viewed themselves as a Nation and their lands as a country. They were, therefore, able to act as a larger unit united in endeavors such as war. They were patrilineal and exogamous. Farmland was individually owned and could be sold. There were hereditary chiefs, but war leaders were frequently more powerful.

Typically, the Mojave house has a frame of logs and poles, a thatch of arrow weed and a covering of sand. The structure has a rectangular interior, and is substantially square on a line of 20 to 25 feet (Kroeber 1925:731) with the door opening to the south. They hunted, fished and gathered and were at least part time agriculturists along the bottomlands of the Colorado River. They grew corn, beans, pumpkins, watermelons, and cantaloupes relying on the floods of the Colorado River to irrigate their fields. Women did most of the farm work and made pottery using the paddle and anvil method. Frequently pottery was decorated with dull red paint. They made rush rafts out of tules and used shells as jewelry.

The Mojave cremated their dead, and the deceased owner's house and shade were burned as well as their personal property. They have a rich belief system, and songs and myths are very important to their ritual life. Dreams appear to be the primary means of gaining knowledge and luck, and are extremely important to the development of the individual. Shamans are primarily healers and unsuccessful shamans were sometimes killed if too many patients died.

"In the 16th Century, by the time the Spanish arrived in the territory, the Mojave people were the largest concentration of people in the Southwest. With the ever-growing insurgence of non-Indian people to the region traditionally occupied by *Pipa Aha Macav*, a United States military outpost was established in 1859 on the east bank of the Colorado River to give safe passage to American immigrants traveling from east to west. Initially, this outpost was called Camp Colorado, but it was soon renamed Fort Mojave. After the military fort was closed in 1891, the buildings were transformed into a boarding school, which operated until 1930. Ruins of Fort Mojave still exist today as a reminder of the once-troubled historic relationship between *Pipa Aha Macav* and American civilization. The ruins are located on a bluff overlooking the Colorado River just south of the boundary of present-day Bullhead City" (Fort Mojave Tribe, 2020).

Cahuilla

The Cahuilla are Shoshonean-speaking people, from the Uto-Aztecan language family and call themselves *lvilyuqaletem*. The Cahuilla people and resided in the far inlands of southern California. It is difficult to establish exact boundaries for cultures territories but traditionally, the Cahuilla have claimed their boundaries to be bound by the San Bernardino Mountain and Chocolate Mountain ranges; Anza-Borrego Desert, portions of the Colorado River, San Jacinto Plain and the eastern slopes of Palomar mountains fall within their territory (Bean 1972); roughly 2,400 square miles. Since time immemorial the Cahuilla people have made Palms Springs and its surrounding area their home (Agua Caliente, 2020).

Cahuilla were centrally location in southern California, and situated in an area that was bisected by a major trade route, "the Coco-Maricopa Trail"; and later, after European contact in the early 19th century, "on the periphery of two others, the Santa Fe Trail which went from what is now Needles through the Mojave Desert and the Cajon Pass; and the Yuma Trail, leading from the city of Yuma and Crossing the Borrego Desert to San Diego" (Bean 1972). It was this central location that contributed to the Cahuilla people interacting with the surrounding cultures through intermarriage, trade, ritual, and war (Bean 1972).

Within the Cahuilla territory, the land was divided into roughly a dozen or so geographic areas claimed "in perpetuity by a corporate group " called the sib (Bean 1972). Each sib had villages that were occupied year-round, with groups or individuals leaving for the necessary actives such as "hunting, gathering, visiting, or trading" (Bean 1972).

Depending on the geographic or climatic zone of a village, the structures and houses would be arranged in several different arrangements mostly determined by "ecological factors and a desire for privacy"; along a stream the houses were generally extended on either side of the bank; in the drier desert areas, houses and buildings would be grouped around the spring less than sixty feet apart (Bean 1972).

The social structure of the Cahuilla was based on the "specific territorial area" occupied by a sib, which was a political unity, not a lineal one. Within a sib, there were "independent, localized lineage units, each with its leader, ceremonial house, ceremonial bundle, and specific locality

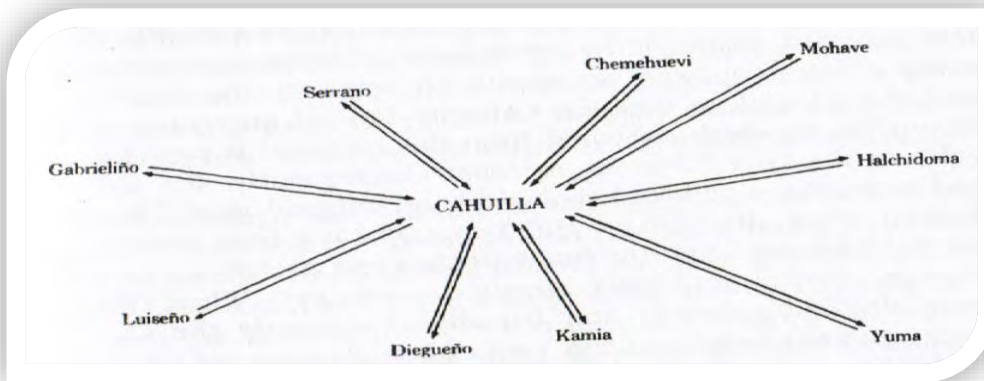


Figure 13: Schematic diagram showing intertribal relationships with Cahuilla (Bean 1972)

after which the lineage was usually named" (Bean 1972). The greatest possible level of "social identification among the Cahuilla was the *'ivi'lyu'atum*, a linguistically and culturally defined group" that speaks the Cahuilla language in contrast to other cultural nationalities such as the Luiseño and Serrano (Bean 1972).

The Cahuilla people were divided into two moieties names *tuktum* (Wildcats) and *'istam* (Coyotes). This social structure helped define the Cahuilla peoples' group identities. Every Cahuilla was a member of the moiety of his or her father and this helped to regulate marriage and ritual reciprocity (Bean 1972). The kinship group of a moiety was "recognized by the members referring to one another as *kilyiw*, a term implying genealogical relationship" (Bean 1972). The moieties also provided the Cahuilla people with "an economic and ceremonial function" for Cahuilla rituals, "at which intermoiety cooperation was mandatory. This was particularly true at funeral and mourning ceremonies, because certain components of ritual activity were owned by each moiety which had to be integrated to complete the performance. According to Cahuilla world view, the very existence of mankind and the ecosystem of which an individual was part of would not be sustained without this ritual reciprocity" (Bean 1972)

For the Cahuilla people, ritual was "a significant variable in maintaining ecological equilibrium in their society." Rituals prevented "extreme conflict over economically desirable areas because of the constant exchange of treasure goods and food between groups." "Rituals served to verify and support the rules concerning land use and occupancy by reminding the participants of the traditional boundaries held by corporate groups [the sib] and by clearly defining who had hunting and collecting rights within these boundaries" (Bean 1972).

The material cultural of the Cahuilla are represented by the various methods they hunted, prepared food, cooked, and lived. They hunted with nets, snares, arrows, and clubs. Vessels made of pottery were used for food storage as well as cooking. Food preparation tools included metates, pestles, mortars, manos, awls, flint knives and hammerstones.

The Cahuilla also made music using a number of different objects, usually from fauna carcasses such as a desert tortoise shell or deer and big horn sheep hooves. They made baskets, storage pouches, and nets from plant fibers such as the yucca, the agave or other plants.

Because the Cahuilla people resided in the interior of Southern California, the Cahuilla people did not have their first encounter with Europeans until 1775, when Juan Bautista de Anza encountered them in his quest to find a trade route from the Sonora Desert to San Gabriel (Bean 1972). The Cahuilla continued to enjoy life without very little Spanish contact until the early 19th century. Spanish contact was followed by sparse Anglo-American contact in the early 19th century and the signing of the Treaty of Temecula in 1852 (Bean and Lawton 1965).

Historically, the Cahuilla people have been divided into groups based on geographic, topographic, or climate zones by anthropologist; the "Mountain," and "Desert,"; "Pass" and "Western" Cahuilla. These historical separations are recognizable today by the nine Southern California Reservations that are home to many of the Cahuilla band of Indians throughout the Imperial, Riverside and San Diego counties.

3.2. Archaeological Prehistoric Context

Prehistoric Overview

The chronological sequence below, taken almost verbatim from Basgall et al. (1998), follows the model offered by Warren (1984) and Warren and Crabtree (1986) with adjustments to incorporate the broader epochal divisions cited in Sutton et al. (2007). It also accommodates more recently acquired data (Basgall 2000; Basgall and Giambastiani 2000; Basgall et al. 2000a, 2000b).

Late Pleistocene Prehistory (10,000–8000 cal BC)

Numerous claims have been made for a pre-Clovis, late Pleistocene occupation of the southwestern Great Basin on the basis of crude flake and core tools that are weathered, appear technologically ancient, and occur in extremely ancient geomorphic situations (Alsoszathai-Petheo 1975; Budinger 1983; Davis and Panlaqui 1978; Glennan 1974; Hayden 1976; Leakey et al. 1972; Rogers 1939, 1966; Simpson 1958, 1961, 1980). Although it is possible that these materials date to pre-Holocene times, most scholars agree that convincing evidence has not been offered to support these claims (Haynes 1973; Payen 1982; Taylor and Payen 1979). Sparse but increasing numbers of sites pre-date the Clovis timeframe (Waters et al. 2011:1602), though of the few reported in the Mojave Desert, none has withstood thorough scientific review (Erlandson et al. 2007).

The earliest widespread archaeological complex in North American is Clovis. Clovis projectiles are lanceolate and concave-based, with distinctive basal fluting. They date to between 11,400 and 10,750 cal BC in the Great Plains and Southwest, although Waters and Stafford (2007) substantially, and controversially (Haynes et al. 2007), trim this range to between 10,950 and

10,750 cal BC. In the Great Basin and Mojave Desert, fluted projectiles are uncommon and most often found as isolates (Basgall 2000; Goebel et al. 2011; Grayson 2011; Rondeau et al. 2007). The few known are distinct (i.e., smaller and thinner) from “classic” Great Plains and Southwest forms, and also tend to be younger in rare dated contexts in the Great Basin (e.g., the Sunshine Locality; Beck and Jones 2009, 2010). In the Mojave Desert, fluted point concentrations have been found in cismontane California, but no dated Clovis-aged components containing fluted projectiles are currently documented in California (Rondeau et al. 2007). Available data seem to point to the more prolific stemmed point tradition(s) as the earliest enduring cultural presence in the Mojave Desert (Beck and Jones 2010; Erlandson and Braje 2011, 2012; Jenkins et al. 2012).

Early Holocene Prehistory (8000–6000 cal BC)

Most archeologists working in the region have designated Lake Mohave, or an equivalent (e.g., Playa, San Diegueño II–III, or Death Valley I), as the earliest cultural complex. Assemblages attributed to this complex include large, stemmed projectile points; leaf-shaped bifaces; crescentics; steep-edged unifaces; miscellaneous flake tools; and relatively few heavy core-cobble tools. Milling equipment is generally rare in Lake Mohave components (Campbell et al. 1937; Hunt 1960; Hunt and Mabey 1966; Rogers 1939; Wallace 1962; Warren 1967, 1984; Warren and Ranere 1968). Although it is recognized that assemblages belonging to this component date to the early Holocene, and perhaps earlier, an absolute chronology has been difficult to establish.

Historically, the temporal placement of Lake Mohave materials depends on radiocarbon dates from non-cultural contexts and formal comparisons to dated contexts outside the Mojave Desert (Bedwell 1973; Bryan 1979; Daugherty 1956; Haury 1950; Haury and Hayden 1975; Hester 1973; Layton 1979; Rice 1972; Sayles 1983; Warren and DeCosta 1964; Warren and Ore 1978). Although the absolute age of Lake Mohave assemblages remains unclear, radiocarbon dates of 9500-8000 BP were obtained from deposits at several sites at Fort Irwin. Obsidian hydration profiles from artifacts recovered from these sites are consistent with a span of 10,000 BP until ca. 7500/6500 BP (Basgall 1993a, 1995).

Until recently, discoveries of components yielding abundant Lake Mohave materials were relatively rare in the southwestern Great Basin (Antevs 1952; Borden 1971; Campbell et al. 1937; Davis 1973; Davis and Panlaqui 1978; Harrington 1957; Hester 1973; Hunt 1960; Meighan 1981; Pendleton 1979; Tuohy 1968, 1974). However, management efforts at various military installations have significantly expanded the known inventory of Lake Mohave sites, and several locations at the Combat Center are now known to contain archeological materials from this period (Basgall 1993b, 1995, 2005; Basgall and Giambastiani 2000). Earlier research noted a tendency for Lake Mohave sites to occur along the margins of extinct lakes, which led some archeologists to equate early cultural adaptations with the exploitation of such habitats.

Some scholars (Bedwell 1973; Moratto 1984) proposed a widespread “Western Pluvial Lakes Tradition” typified by a specialized lacustrine economic orientation. It is increasingly evident, however, that Lake Mohave components occur in a wide variety of other settings near fossil and

active springs, as well as in areas with no apparent connection to water (Basgall and McGuire 1988; Borden 1971; Davis 1973; Hunt 1960; Rogers 1939; Warren 1967, 1980). Playa associated assemblages are more likely to reflect a more generalized hunting and collecting adaptation (Davis and Panlaqui 1978; Warren 1967). The apparent distribution of Lake Mohave settlements within certain contexts (along washes, playa margins, etc.), therefore, is probably misleading and biased by various problems associated with site visibility. Also, recent alluviation has obscured many early sites (cf. Basgall 1991; Waters 1991).

Prevailing conceptualizations of lifeways during the Lake Mohave period are best summarized in the writings of Claude Warren (1984, 1986; Warren et al. 1984), who stressed the tendency for settlements to concentrate within “well-watered valleys and basins where resources were abundant and more or less homogeneously distributed” (Warren et al. 1984:243).

According to Warren, subsistence strategies revolved around the procurement of large game congregating in such habitats, with plants and small animals contributing little to the economy. More recent analyses contradict important elements of this characterization, in that technological characteristics and wear patterns on flaked stone tools indicate uses other than hunting. Additionally, ground stone tools are present at many sites and faunal remains point to significant exploitation of small mammals and reptiles (Basgall 1990; Basgall and Hall 1990; Basgall et al. 1986; Douglas et al. 1988).

Far from showing a focus on large game, Lake Mohave populations appear to have had a subsistence focus similar to groups that exploited the same area in later times. Group size was almost certainly small and cultural material accumulations at some locations testify to recurrent use of favored localities (whether because of the proximity of food, water, or lithic sources). In the absence of evidence for a specialized lacustrine adaptation, the association of sites with pluvial lakes may simply be the result of archeology being conducted most often in such areas, as well as the differential preservation of old surfaces in other contexts.

Middle Holocene Prehistory (7000–3000 cal BC)

Succeeding Lake Mohave in the regional sequence is a complex referred to as the Pinto Period. These assemblages contain a variety of shouldered, indented-base stemmed points, referred to as Pinto series points. Pinto series points include the following projectile point types: Little Lake, Bare Creek, and Gatecliff. Other artifacts attributed to the Pinto Period are large and small leaf shaped bifaces, domed and keeled unifaces, flake tools, and numerous core-cobble tools (Campbell and Campbell 1935; Hunt 1960; Rogers 1939; Wallace 1962; Warren 1984). Millingslabs and handstones clearly occur in Pinto assemblages, but their role in the economy is uncertain.

The absolute temporal position of Pinto assemblages also remains open to question. Radiocarbon dates associated with similar projectile points in the central and northern Great Basin generally fall between 5000 and 3300 BP (Bettinger and Taylor 1974; Holmer 1986; Thomas 1981), but clear formal and technological distinctions between variants from the Mojave Desert and places further north in the Great Basin complicate cross-dating attempts. Recently, several scholars suggested that Pinto assemblages appear as early as 7000-8400 BP and persist until ca. 4000 BP

(Basgall 1995; Basgall and Hall 1993; Jenkins 1987; Warren 1980, 1984; Warren and Crabtree 1986).

Apart from the type-locality in Pinto Basin, only 30 miles (50 km) southeast of the Combat Center, few sites containing major Pinto components were reported in detail (Harrington 1957; Hunt 1960; Meighan 1981; Rogers 1939, 1966; Smith 1963). Recent work at the Combat Center (Basgall and Giambastiani 2000) documented several extensive Pinto-age residential complexes equal in size to the Pinto Basin locality, but with better chronological and stratigraphic integrity. Warren and Crabtree (1986) characterized most Pinto sites within the immediate region as low-density scatters of surface debris representing seasonal camps of highly mobile populations. These assemblages often occur along fossil streams and lakeshores and adjacent to springs (cf. Rogers 1939; Wallace 1962).

Pinto subsistence patterns include a greater breadth of resources than those of the Lake Mohave period. Plant use and small animal exploitation increased as environmental conditions and large game productivity deteriorated between 7,000 and 4,500 years ago (Warren 1980, 1984; Warren et al. 1984). In response to presumed changes in resource structure, Pinto populations shifted toward use of the desert margins and oases. Consequently, the depressed population density resulted in fewer sites, and Pinto sites tend to be small and lack appreciable midden deposits (Warren 1984).

The structure of Pinto flaked stone assemblages parallels that of the Lake Mohave Period, with the addition of indented-base projectile point forms. Faunal inventories remained similar in composition and breadth during this period, with small game comprising the dominant taxa (Basgall 1990; Basgall and Hall 1990, 1993; Douglas et al. 1988; Hall 1992). Artiodactyl remains tend to be relatively scarce in most assemblages; however, they increase in frequency through time. Pinto Period milling technology deviates considerably from Lake Mohave precursors. Found in virtually all closely examined Pinto components, ground stone artifacts are comparable in frequency to those of later periods, and evidence demonstrates that middle Holocene populations across the Mojave Desert were full-fledged, generalized foragers.

Late Holocene Prehistory (2000 cal BC–Contact)

Archeological patterns characterizing the last 3,500 years of Mojave Desert prehistory illustrate a great deal of temporal and spatial variation. Various projectile points are associated with this period. Initially, they include the fairly large Elko, Gypsum, and Humboldt Series dart-sized points. Later projectile points comprise smaller side- and corner-notched specimens, such as Rose Spring series or Desert Side-notched arrow-sized points used with bows. Other artifacts include stone drills, flake scrapers, hammerstones, choppers, large scraper-plane tools, handstones and millstones, mortars and pestles (later in this period), bone awls, arrowshaft straighteners and smoothers, and shell beads (Warren 1984). Two main themes dominate most discussions of the late Holocene period. The first regards the influence of cultural developments in the southwest Mojave Desert. Research has also focused on intensification of land-use strategies during the late Holocene period as a response to environmental change, population dynamics, and innovations in subsistence settlement organization and technology.

Cultural relationships between the Mojave Desert and the Great Basin and Southwest have a long and complex history. Split-twig figurines at Newberry Cave, only 15 miles (27 kilometers) from the northwest corner of the Combat Center, are remarkably similar to those from Nevada, Arizona, and Utah (Davis and Smith 1981), indicating that interaction with southwestern cultures may date to as early as 3300 BP. More definite connections are evident in the presence of Ancestral Puebloan ceramics at sites in the northeast Mojave Desert after roughly 1100-1200 BP (Rogers 1929). Their occurrence, along with quarrying tools at turquoise sources near Halloran Spring (Leonard and Drover 1980), may reflect use by specialized traders or quarrying/mining parties. Relationships shifted to the south during the late prehistoric period, resulting in the importation of lower Colorado buff wares to the region through historic times.

From a regional vantage, Warren (1984; Warren et al. 1984) proposed that the return to more favorable environmental conditions soon after the Pinto Period stimulated an increase in artiodactyl (bighorn sheep, deer, and antelope) populations. Large game hunting re-emerged as an economic focus in response to this potential, but the intensification of plant exploitation (especially mesquite) continued (Hunt 1960; Wallace 1977; Williams and Orlins 1963). These subsistence trends continued until about 700 BP when overexploitation of artiodactyls necessitated procurement of a wider range of vegetal products. Plants assumed a dominant economic role at this time (Warren et al. 1984). This characterization is supported by data from many parts of the Mojave Desert.

3.3. Post-Contact Historic Context

Early Exploration

The first recorded expedition into the Mojave Desert was led by Spanish government official Pedro Fages, who traveled through Cajon Pass in 1772 in pursuit of fugitives from the Presidio at San Diego. More extensive explorations of the Mojave Desert were conducted by Father Francisco Garcés, who first traversed the region in 1776, traveling west along the Mojave River and then proceeded eastward and deeper into the desert later that same year. Later explorers including Jedediah Smith (1826), Ewing Young (1829 and 1831-1832), and John C. Fremont (1844), followed the route established by Garcés, which by that time was known as the “Old Spanish Trail” (also referred to as the “Mojave Road”). This route was also used by the famed Mormon Battalion as they trekked from Utah to California in 1847, paving the way for further Mormon settlement in the San Bernardino Valley and the subsequent organization of San Bernardino County in 1853 (Chamberlin 1986; Leadabrand 1966; Schuiling 1984).

Emigrant traffic along the Old Spanish Trail and other routes across the desert coincided with increased commercial activity between Santa Fe and Los Angeles during the 1830s and 1840s. The bulk of the commercial trade was in California mules and horses which, because of their superior quality, were in great demand east of the Colorado River. Regular trade was accompanied by the growth of illegal traffic in livestock. Mules and cattle seized by raiding parties were driven through Cajon Pass into the Mojave Desert, where they were traded for other goods. The persistent threat of banditry and violence to commercial and emigrant traffic prompted the establishment of United States military forts and several smaller redoubts from the

Colorado River to the present City of San Bernardino along the route known as the “Old Government Road” (Belden 1964; Hoover et al. 1990; Leadabrand 1966; US Works Progress Administration 1937).

Euroamerican exploration of the Morongo Basin came relatively late in comparison to other regions in southern California. Of the 21 Spanish missions established between 1769 and 1823, Mission San Gabriel Archangel in Los Angeles County was the easternmost outpost of the Spanish government in California. The Morongo Basin remained essentially free from Euroamerican contact for 19 years after the secularization of the missions in 1834. During this period, Californios regarded the Morongo Basin to be of no particular value for settlement or ranching activity (Leadabrand 1966; O’Neal 1957).

Captain John C. Fremont traveled north of the Morongo Basin in 1844 while exploring Alta California. Although Fremont did not enter Morongo Basin, his speculations of an oasis or some other type of water source in the desert interior stimulated interest in the region. Pauline Weaver, a scout for the Mormon Battalion, was reported to have passed through Morongo Basin on his way from San Bernardino to the Colorado River in 1848, establishing the trail that would later be called the Weaver Road. The first recorded survey of the region, however, was led by Colonel Henry Washington, who explored and mapped the area around Twentynine Palms in 1855 while laying out the San Bernardino baseline. In his field notes, Washington noted an “Indian wigwam” near a seemingly permanent “spring of good water.” Washington, thus, provided the first written description of the Twentynine Palms Oasis. The following year, Deputy Surveyor A. P. Green continued the Washington survey, traveling further east and making more extensive notes on Native American settlements (Chase 1919; Miller and Miller 1980; O’Neal 1957).

Ranching

The California Gold Rush (1848-1852) and the subsequent influx of newcomers into the state during the second half of the nineteenth century necessitated a greater food supply. As a result, cattle and other livestock were driven into California from the east. Because of its position along the cattle routes into southern California, ranching developed in the Morongo Basin alongside the regional mining economy. Although a significant amount of livestock trade occurred in the Twentynine Palms area, ranching and grazing activity was centered at Warren’s Ranch in the present Morongo Valley.

The first non-Native American settlers of the valley were members of the de Crevecoer family, who ran cattle and sheep to the Twentynine Palms area before settling in the region in 1873. In 1884, the ranch was taken over by Mark “Chuck” Warren, who transformed it into a popular stage stop and resting-place for travelers. Warren owned the ranch until his death in 1917, at which time it was taken over by William Covington, who eventually expanded the de Crevecoer ranch to 640 acres. Grazing activity that originally began in Morongo Valley gradually spread eastward toward Yucca Valley and Twentynine Palms. The numerous creeks and natural springs in the region provided the water necessary for irrigating pasture and grazing lands on which cattle were raised until the mid-twentieth century (O’Neal 1957).

Homestead Settlement

Although mining and ranching activity brought a somewhat transient population to the Twentynine Palms area, the foundation for a stable and permanent community was made by the many “homesteaders” who came to the region in the late nineteenth century. Under the Homestead Act of 1862, the United States Congress opened up millions of acres of public domain to anyone who could pay the \$10.00 registration fee and live on the land for five years (shortened to three years in 1912). The existence of a natural water spring and the potential for agricultural development made the Twentynine Palms area the focal point of homesteading in Morongo Basin. Homesteaders began arriving in the region as early as 1873, but few of the early filers remained in the remote region for the requisite five- or three-year period. It was not until the mid-1920s that the area experienced a significant increase in homestead settlements (O’Neal 1957; Robinson 1948).

During the 1920s, the growth of Twentynine Palms was due, in large part, to people moving to the area for the recuperative benefits of Morongo Basin’s warm and dry climate, which was beneficial for sufferers of arthritis, asthma, tuberculosis, and World War I veterans whose lungs were damaged by mustard gas. A Pasadena physician, James B. Luckie, moved to Twentynine Palms and began encouraging veterans and members of the Pasadena Branch of the American Legion to file for homesteads in the region. By 1928, enough veterans settled in the area to form their own legion post, which eventually included a rest home and community center. During the 1930s, the population of Twentynine Palms and its surrounding area grew steadily as veterans and homesteaders were joined by others seeking a healthy lifestyle and an escape from the rapid pace of urban life (Bagley 1978; Kidwell 1986; Ludwig 1989; Robinson 1948).

Mining

During both the Spanish and Mexican occupations of California, scattered prospecting for minerals took place in the Mojave Desert. It was the California Gold Rush, however, that triggered a significant migration of miners into the region. The Jefferson Hunt Party, traveling along the Mormon Trail from Salt Lake City to San Bernardino, discovered gold at Salt Springs on the Amargosa River in Death Valley on December 1, 1849 (Lingenfelter 1986; Vredenburg et al. 1981:58). Small mining companies worked the Salt Springs lode from 1850 through 1852. For the most part, however, the eastern Mojave Desert experienced little mining activity in the 1850s. The discovery of Nevada’s Comstock Lode in 1859 stimulated the expansion of prospecting throughout the California deserts in the 1860s. In San Bernardino County, gold and silver ore were discovered in the Clark, Providence, New York, Whipple, Turtle, San Bernardino, and Sacramento mountains (Vredenburg et al. 1981:58). Mining in the 1860s was often performed by a single miner or a small group of partners working easily accessible ore deposits. The 1870s, however, brought forth more productive mining, especially in the Clark and New York mining districts of northeastern San Bernardino County (King and Casebier 1981:304). Mining companies, few in number and financed with investment capital, typically operated the larger mines. Most mining activity throughout this period and into the 1880s took place within a “catchment basin,” a corridor confined to no more than a two-day journey from

the two major transportation routes through the Mojave Desert—the Mojave Trail and the Colorado River.

In the early 1880s, mining exploration and production in the Mojave Desert intensified and expanded with the construction of the Southern Pacific Railroad’s Mojave to Needles line. The late nineteenth century also saw the emergence of significant non-metallic mining in the region, such as borax, gypsum, clay, and salt.

Early mining at the Combat Center began in November 1882 when the Southern Pacific built a siding at Lavic to service its rolling stock and maintenance crews. The earliest and most productive mining claims were filed in the Lava Bed Mountains and the Bullion Mountains between 1884 and 1901. The earliest mining district in the area was the Lava Beds Mining District, organized in 1884.

Ver Planck (1961) defines a second “boom” phase of mining in the region beginning about 1900 and peaking during World War I. This boom followed on the heels of an intensified global demand for gold, silver, copper, lead, zinc, and other base metals. More regionally, the boom in the eastern Mojave Desert was stimulated by the gold strikes at Tonopah, Goldfield, and Bullfrog in Nevada during the first decade of the twentieth century (Elliott 1966; Lingenfelter 1986).

Several boomtowns, including Vanderbilt, Stedman, and Hidden Hill, emerged in the region. Mining during this phase is characterized by the exploitation of low-grade ore bodies using more effective processing methods, such as cyanidation. In addition to gold and silver, copper, lead, zinc, chromium, manganese, tungsten, and vanadium were mined in the area. This phase is also characterized by heavily capitalized mining companies. Ver Planck (1961:6) notes that “more mines were active and production was higher during this period” than any other time in the region’s history. Intensification of industrial mining and corporate growth and development took place in the area between 1901 and 1930. Many of the earlier individually owned mines and mills were purchased by, or reorganized into, corporations with greater financial wherewithal.

The Depression of the 1930s witnessed the migration of numerous unemployed, urban wageworkers and dust bowl migrants into California. Many of these newcomers tried their luck at mining in the California deserts. However, most people engaged in small-scale and inexpensive mining operations using equipment such as arrastras and winnowing devices. This phase also saw the introduction of new and more effective technologies for processing complex ores, renewing mining activity at some of the previously abandoned claims in the area.

In 1942, gold mining was suspended by a Presidential EO that declared gold mining an industry nonessential to the war effort. This suspension lasted until the end of World War II, but mining copper, iron, manganese, tungsten, lead, zinc, and other strategic minerals intensified. In 1952, the establishment of the Marine Base closed the area to mining (Vredenburg et al. 1981:58).

Military Era

World War II and Condor Field

The advent of World War II prompted the military to look at the Twentynine Palms area to develop a training facility. Between 1939 and 1941 the United States initiated a massive effort to mobilize its resources in response to the escalating conflicts in Europe and the Pacific.

As part of this effort, the Army, Navy, and USMC established dozens of new facilities in California to defend the west coast and train soldiers, sailors, and pilots for combat. In November 1941, shortly after passage of the Lend-Lease bill to aid Great Britain in fighting Nazi aggression, Secretary of War Henry L. Stimson granted the US Army Corps of Engineers authority to establish a glider school on the playa north of Twentynine Palms. Later that same month, the US Army Corps of Engineers dispatched a surveying party to determine the best location for the new station. The engineers completed their survey by mid-December, and work on the facilities began shortly thereafter (Ludwig 1989).

A new glider school, officially known as Twentynine Palms Air Academy, was initially operated by a civilian firm that contracted with the Army to build, maintain, and operate the glider facility for the Army. The facility itself soon acquired the name, Condor Field. Initially, the Twentynine Palms Air Academy included both military and civilian administrators and instructors. In January 1942, the first class of 18 students arrived at Twentynine Palms for training. Shortly thereafter, the school intended to rotate classes of 24 people through the academy every two weeks. As the war progressed, however, it became clear that airborne missions traditionally flown by gliders were accomplished more safely and efficiently by paratroopers. By early 1943, the Army discontinued glider training at Twentynine Palms. In 1944, the US Army Corps of Engineers began using Condor Field as a flight training school for powered aircraft, but the Army permanently abandoned the field that same year. Hard pressed to find flying facilities for operational training of fleet squadrons in southern California, the Navy petitioned the Army to transfer Condor Field to Navy control. In July 1943, the Navy Department officially established the Naval Auxiliary Air Station (NAAS) Twentynine Palms under the command of the Naval Air Center headquartered in San Diego. For approximately one year, the Navy used the facility for flight training, specializing in bombing and strafing (Coletta 1988). After the war ended in 1945, the NAAS Twentynine Palms, like many other auxiliary air stations, was taken off duty and placed on caretaker status (Ludwig 1989), although the main airfield was conveyed to San Bernardino County (US Army Corps of Engineers, St. Louis District 2000:2-5, 2-6).

The Marine Corps Training Center Twentynine Palms

Camp Detachment Marine Corps Training Center (1952-1957)

Just as the Korean War was a test of the United States' containment policy, in many ways it was also a test of the rapidly growing US defense industry. Although no nuclear weapons were employed, defense industry specialists scrambled to develop and deploy more accurate, long-range conventional weapons. As a result, during and immediately following the Korean War, the USMC found itself with new weapons and no facility large enough to house training activities.

Both Camp Lejeune in North Carolina and Camp Pendleton on the southern California coast were too small to handle the influx of new sophisticated artillery and rockets being developed. The USMC began looking for a place large enough to handle weapons such as the improved 155mm guns, eight-inch howitzers, and new rockets and missiles. On August 20, 1952, the

USMC officially acquired 935 square miles of desert near the town of Twentynine Palms, including the World War II-era Condor Field. Operated under the auspices of Camp Pendleton,

the station was officially activated as “Camp Detachment, Marine Corps Training Center Twentynine Palms” by Post Order 343 from Headquarters Marine Barracks, Camp Pendleton. A few months after acquiring the station, construction on new facilities began (Armed Services Press 1972; Informational Services Office 1968).

In December 1952, Lieutenant Colonel Fredrick H. Scatling and approximately two dozen Marines comprising Camp Detachment, Marine Corps Training Center (MCTC), occupied the facilities at Condor Field. The primary duties of Camp Detachment, MCTC were to scout out and establish ranges, and to guard the facility while the civilian contractor completed the first phase of construction of the new Base facilities. As planned, the facility would consist of a main administration, residential, instructional, recreation area (Mainside), and several outlying areas, including the large firing ranges, a small arms and rifle range, and an ammunition storage area. Wells were dug at Surprise Spring that tapped its aquifer, which proved to be more than enough to supply the water needs of the Base (Ludwig 1989).

The USMC envisioned Twentynine Palms as providing facilities for long-range field artillery, anti-aircraft artillery, heavy gun tanks, guided missiles, and heavy artillery rockets. It was also intended for field firing exercises of units up to division and wing size. In March 1953, elements of the 12th Marine Regiment began exploring the vast new station and started practicing on the newly acquired ranges. Approximately 2,500 officers and men, including elements of the 155mm Gun Battalion and the 1st Anti-Aircraft Artillery (AAA) Automatic Weapons (AW) Battalion Force Troops left Camp Pendleton on March 18 and made the 145-vehicle trek to the desert Base. Once there, they began full-scale firing exercises with 105mm and 155mm howitzers (Ludwig 1989). The 1st AAA AW Battalion was the first unit permanently assigned to the new Base. In August 1953, the battalion administration moved from Camp Pendleton to MCTC Twentynine Palms, and in early September, the Marines moved into the new barracks. The following month, the 1st 155mm Gun Battalion moved from Camp Pendleton into a tent camp near Surprise Spring, and a month later they too moved into the barracks (Ludwig 1989).

Initially, the USMC planned to use the Twentynine Palms Base to house and train only Camp Pendleton Force Troops units with long-range, indirect fire weapons. As the facilities became available during the year, however, the USMC opted to move four FMF Atlantic organizations with 80 officers and 887 enlisted men stationed at Camp Lejeune, North Carolina, to the Base. The troops were transported through the Panama Canal to San Diego and then to Twentynine Palms.

By June 1954, units assigned permanently to MCTC Twentynine Palms included the Headquarters Battery Force Artillery; the 1st 155mm Gun Battalion; the 2nd 155mm Gun Battalion; the 1st 155mm Howitzer Battalion; the 1st 8-inch Howitzer Battalion; the 1st AAA AW Battalion; the 2nd AAA AW Battalion; the 2nd 90mm AAA Gun Battalion; the 1st 75mm AAA Training Battalion; and the Combat Service Group Detachment. The Marines also began the development of other areas on the Base, including a family housing area, a field training area (later called Camp Wilson), a small arm firing range, and an ammunition storage area. The small arms range complex was completed in 1955 and gradually expanded over time (Ludwig 1989).

Marine Corps Base (1957-1978)

In late 1956, Congress appropriated \$15 million for new construction at the Base. On February 1, 1957, the USMC officially commissioned the facilities at Twentynine Palms as an independent Base. Given the official name, Marine Corps Base (MCB) Twentynine Palms, the essential mission of the station remained the same: to provide the personnel, material, and services to support FMF units training there (Ludwig 1989).

In the 1960s, the USMC moved one of their premier technical schools, the MCCES, to MCB Twentynine Palms. However, MCB Twentynine Palms essentially served as the Marines' artillery training base.

The new Base status meant that new units were assigned to Twentynine Palms. By the end of 1958, in addition to the Base headquarters and service personnel, tenants at MCB Twentynine Palms included headquarters company of force troops; the headquarters battery of the 1st Field Artillery Group; the 1st and 2nd 155mm Gun Batteries; the 3rd 155mm Howitzer Battery; the 1st Heavy Artillery Rocket Battery; the 1st and 2nd 105mm Howitzer Batteries; the 3rd and 4th 8-inch Howitzer Batteries; the headquarters battery of the AAA group; the 1st and 2nd AAA AW Battalions; the 1st Force Service Regiment; the Company D, 7th Engineer Battalion; the 5th Dental Company; the medical section (from the Naval Hospital, Camp Pendleton); the 1st and 2nd Medium Anti-Aircraft Missile Battalions; and the 1st 7mm AAA Battalion (Ludwig 1989). In 1962, the USMC budget was increased by \$67 million and its force enlarged to 190,000 (Millett 1980). Marines stationed at Twentynine Palms were sent to Florida during the Cuban Missile Crisis of 1962 (Kelley 1975). Although the operation lasted only weeks and the Marines soon returned to the desert, it did presage the mass deployments that all but depopulated Twentynine Palms during the early years of the Vietnam War.

In late 1963, the USMC decided to move the MCCES battalion from the USMC recruit depot in San Diego to Twentynine Palms. Because of revolutionary advances in electronic communications technology, the MCCES program was the fastest growing training school in the USMC. For example, in 1962, 1,051 Marines graduated from the program and that number increased to 1,640 the following year. However, even these numbers were well short of the trained communications specialists needed by USMC units around the globe. As a training site, Twentynine Palms had several advantages over San Diego. Located near Lindbergh Field, training at San Diego was frequently interrupted by the noise of aircraft taking off and landing. In addition to freeing the school from aircraft noise, the remote location at Twentynine Palms meant that other atmospheric interference was minimized. Moreover, the open spaces at Twentynine Palms gave the school necessary room to grow (Ludwig 1989).

As the United States involvement in Vietnam increased, Marines from Twentynine Palms were sent overseas. In November 1964, the entire 1st Light Anti-Aircraft Missile Battalion, with its Hawk missiles, was secretly deployed to Vietnam. Approximately 600 Marines, along with a Navy doctor and eight corpsmen, were sent to provide air defense at Da Nang in south Vietnam. This was the first major unit at Twentynine Palms to be assigned to frontline duty. Over the next year, many Marines from Twentynine Palms were assigned to southeast Asia. As a result, the Base population dropped dramatically during the early years of the Vietnam War. By 1967,

however, this trend began to reverse as units and individuals completed their tours (Ludwig 1989:48-55).

To prepare Marines deploying to Vietnam, the USMC initiated specialized training that simulated battlefield conditions in that country. An example was an exercise involving more than 2,000 Marine reservists called “Operation Sidewinder.” Held during the summer of 1966, the objective of Operation Sidewinder was to enhance the operational readiness of the Marine reserve units by confronting them with conditions found in Vietnam. In addition to the enemy army and heat, the Marines were faced with simulated booby traps and civil insurrection. Additionally, fighter jets attacked ground troops. The exercise lasted only three days, but included Marines from as far away as Indiana and included the use of tanks, artillery, and Hawk missiles. That same summer, the first USMC Redeye Missile School began teaching classes at Twentynine Palms. The Redeye missile was a handheld, heat-seeking anti-aircraft missile used by ground troops as a support weapon. The school was located at Twentynine Palms until the 1970s (JRP Historical Consulting 1999; Ludwig 1989).

In January 1966, Secretary of Defense Robert McNamara authorized plans to increase the USMC by 85,200 to a wartime level of 278,000; approximately 25,000 more than during the height of the Korean War (Millett 1980). By the late 1960s and early 1970s, the policy of “Vietnamization” of the war signaled a gradual phasing out of United States Marine forces and a subsequent expansion of Marine facilities stateside, including MCB Twentynine Palms. By the mid-1970s, the war in Vietnam was winding down and manning levels at MCB Twentynine Palms recovered from the mass deployment lows of the 1960s. However, with the exception of the addition of the MCCES, the mission of the Base remained essentially as it was since 1953, to provide the personnel, material, and services for the maintenance, training, and support of MCB forces assigned to Force Troops, FMF, Pacific; to provide medical, dental, and surgical facilities for force units and augment division medical facilities; to provide formal school training for personnel in the field of Communications-Electronics; to support operations of the Marine Air Reserve Training Command; and to perform such additional functions as directed by the Commandant of the Marine Corps.

Marine Corps Air Ground Combat Training Center (1978-1979)

In 1974, Lieutenant General Louis H. Wilson (later the 261 Commandant of the USMC) suggested using the Twentynine Palms facility as a combined arms training center where Marines could conduct training using complete and realistic combat simulations, including infantry, artillery, and air power. On October 1, 1978, the USMC redesignated MCB Twentynine Palms as the Marine Corps Air Ground Combat Training Center, Twentynine Palms. The purpose of the Combat Training Center was to conduct extensive realistic battlefield training with combined arms (air, artillery, and infantry) for units of both the Atlantic and Pacific FMF. Marines would, thus, be able to see and gain an appreciation of the effectiveness of every form of support necessary in a real combat situation.

One of the main components of the new training concept was integrating air operations into the exercises, something that had happened only to a limited extent at Twentynine Palms during earlier specialized training exercises, such as Operation Sidewinder.

To accommodate the training aircraft, in 1976 the USMC initiated construction on an Expeditionary Airfield near Camp Wilson. Completed in 1978, the facility consisted of an aluminum plate runway, temporary hangars, and other associated facilities. By mid-1978, the center was ready to hold its first Combined Arms Exercise (CAX). These early exercises involved a 12-day deployment with a structured three-day CAX.

Marine Corps Air Ground Combat Center (1979-Present)

On February 16, 1979, the Combat Center was redesignated as the MCAGCC. With the change in name, the Combat Center's mission became more focused on the development, administration, and evaluation of the Marine Corps' Combined Arms Training Program and the CAX. The objectives of the CAX program were to exercise and evaluate active duty and reserve FMF units and MAGTFs in command, control, and coordination of combined arms with a maneuver warfare live fire environment.

On April 30, 1980, the USMC activated the Combined Arms Command at the Combat Center to provide a command headquarters for the FMF, Pacific units at the Base. The following May, the headquarters nucleus of the 7th Marine Amphibious Brigade moved to the Combat Center. This brigade was responsible for training and planning for the deployment and employment of assigned forces associated with the Near-Term Prepositioning Ships Program. In December 1981, the headquarters of the 27th Marine Regiment was reactivated at the Combat Center to serve as the ground combat element of the 7th Marine Amphibious Brigade. At the same time, the USMC deactivated the Combined Arms Command.

From the early 1980s until the end of the Cold War era, the Combat Center continued to grow steadily. Today, the Combat Center continues as the USMC combined arms training center. In addition to fulfilling their training mission, the Marines at the Combat Center remain ready to deploy overseas as needed. In 1990 and 1991, the DoD deployed nearly 8,000 Marines from the Combat Center in support of operations Desert Shield and Desert Storm. In 1993, the USMC continued its tradition of innovative training when it established the MAGTF/Expeditionary Training Center at the Combat Center to help the USMC and other services prepare for changes in the battlefield involving low-intensity conflicts. In October 2000, the Marine Corps realigned the Command at the Combat Center to the MAGTFTC.

3.4. Previous Cultural Resources Studies

This section describes previous archaeological research that has been conducted aboard the Combat Center (Appendix 9). The earliest studies conducted in the located of the Combat Center area were between 1929 and 1940 by Elizabeth Campbell. Elizabeth Campbell and geologist David Schraf and paleontologist Chester Stock from the California Institute of Technology "began field work in the Pinto Basin in 1933.

They discovered a heavy concentration of archeological surface sites along six miles of an ancient, dry-stream channel. Since no springs were in the vicinity, the association of the sites with the dry channel led them to conclude that those sites must be associated with an ancient river or stream that flowed sometime in the late Pleistocene or early Holocene. From the Pinto

site, and later work at the north end of Pleistocene Lake Mojave beginning in 1934, Elizabeth came to recognize a relationship between humans and environmental factors that could influence settlement patterns. In the spring of 1936, the new professional journal *American Antiquity* published her paper 'Archaeological Problems in the Southern California Deserts.'" (NPS, 2015).

3.4.1 Archaeological Surveys and Inventories

Formal inventories aboard the Combat Center began in the 1970's to comply with the NHPA of 1966. Key inventories conducted prior to the writing of this ICRMP update include McCarthy (1979), Jenkins, Dennis L., et al. (2012), Baksh, M., and G. Hilliard (2005), Basgall, M. E. (1990, 1991, 1993a, 1993b, 1995, 200, 2005, 2013), Basgall, M. E., and M. A. Giambastiani (2000), Basgall, M. E., M. A. Giambastiani, and K. R. Bethard (1998, 2000a, 2000b), Cottrell, Marie G., and P. J. Maxwell (1994), Hall, M. C., and C. A. Schultze (1998), Hedges, K., and D. Hamann (1992), and JRP Historical Consulting (1999, 2017, 2018). Archaeological investigation to date has resulted in the survey of 58 percent of the land aboard the Combat Center.

The 462 reports completed at the Combat Center include various study types, including:

- Assessment (2)
- Site Condition Assessment (3)
- Data Recovery (2)
- Evaluation Reports (85)
- Excavations (1)
- General Reference (7)
- Geoarchaeological (4)
- Historic Context (3)
- In-House Reports (155)
- Inventory/Survey Reports (141)
- Monitoring (1)
- Paleontological (6)
- Planning Documents (35)
- Research Design (N/A)
- Studies/ Study Area (12)
- Work Plan (5)
- Other (N/A)

3.5. Known Cultural Resources

As of July 2020, approximately 58 percent of the land aboard the Combat Center has been surveyed for cultural resources; typically, all surveys prior to 2019 were surveyed at a 25-meter transect interval (figure 14). In 2019 the CRM implemented new guidelines for survey intensity level, requiring transect intervals to be no more than 15-meters apart, unless the terrain dictated a

change in intervals and the change must be documented in the final report with justification. A total of 2,630 archaeological resources have been recorded as sites aboard the Combat Center, including prehistoric, historic sites, and multi-component sites. Currently, prehistoric sites comprise 2,316 (88 percent) of the total extant localities; historic sites comprise 295 (~11 percent); and multi-component sites comprise 19 (< 1 percent). The Combat Center has evaluated 835 sites for eligibility to the NRHP but still needs to consult with the SHPO to receive concurrence on the determinations.

All known artifacts collections derived from archaeological site testing, data recovery and excavations are curated at the APCC aboard the Combat Center. Currently, this includes more than 2555 cubic feet of collections, with 225 linear feet of records.

3.5.1 Historic Buildings, Structures or Objects

In 2018 the Combat Center evaluated 123 Buildings, Structures or Objects constructed between 1953 and 1972 under NRHP Criteria A, B, C, and D and determined them ineligible for the NRHP. The Combat Center currently has no BSOs that are 50 years or older (historic) that could be potentially eligible for the NRHP.

In 1999 the Combat Center inventoried and evaluated more than 1,200 installation buildings and structures or objects constructed between 1946 and 1989 at the Combat Center for NRHP eligibility under Criteria Consideration G, which requires a higher threshold of “exceptional significance.” The Combat Center consulted with SHPO on the determinations of eligibility for all 1,200 BSOs and SHPO concurred with a determination of "Not Eligible under Criteria Consideration G" in 2002.

3.5.2 Traditional Cultural Properties

A 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 community’s history, and (b) are important in maintaining the continuing cultural identity of the community.” Parker and King (1990) note 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.

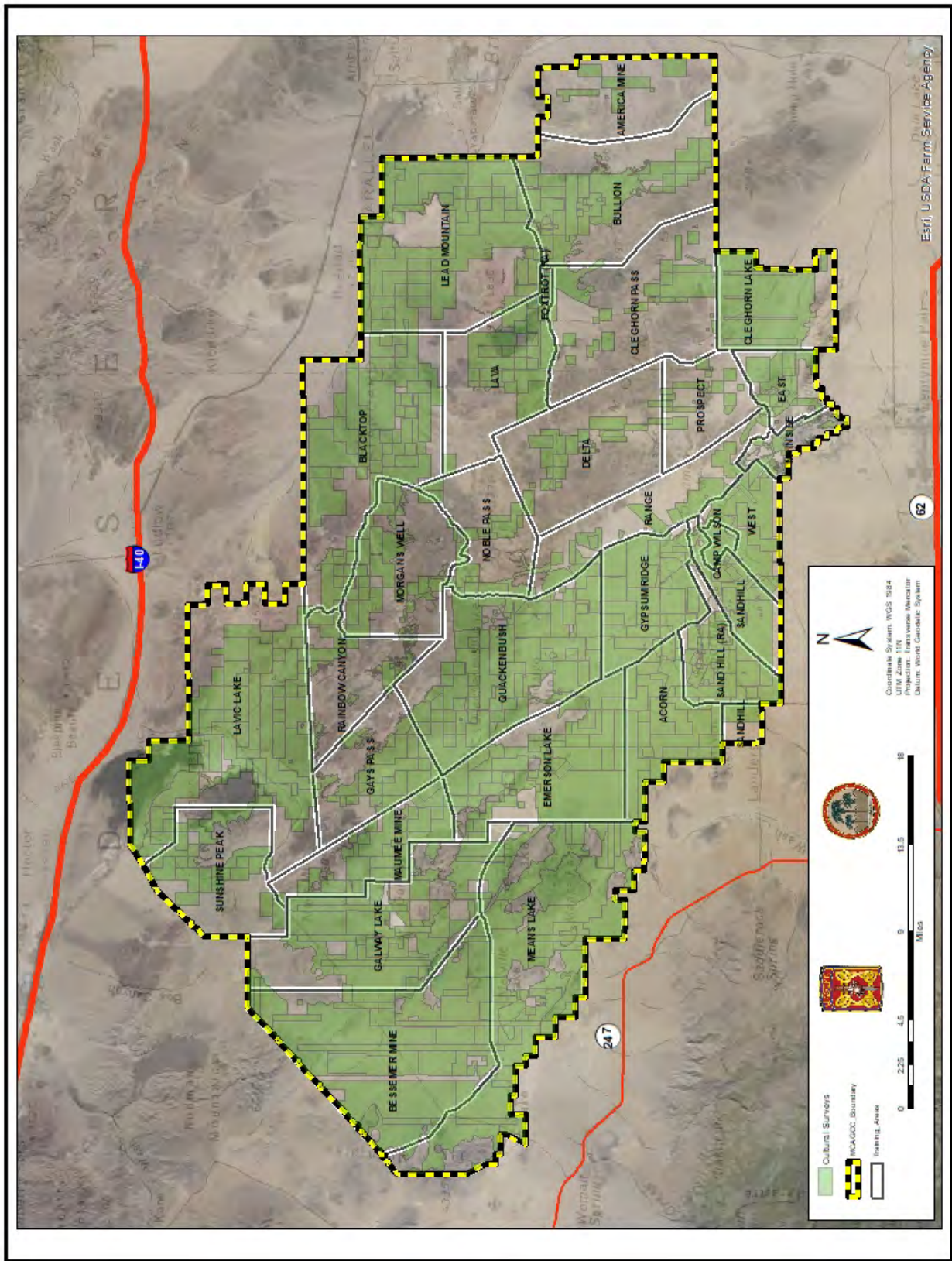


Figure 14: Map of Combat Center and Means Lake SUA cultural surveys

3.5.3 Historic Landscapes

Historic Landscapes can be divided into four categories:

- 1) *Historic Designed Landscapes*
- 2) *Historic Vernacular Landscapes*
- 3) *Historic Sites (associated with a historic event, activity or person)*
- 4) *Ethnographic Landscapes*

There are no historic landscapes that fall into categories 1 and 2, but working with the Combat Centers consulting Tribes, ethnographic landscapes have been identified in the Emerson Lake, Lavic Lake and Lead Mountain Training Areas to date. In addition to these ethnographic landscapes identified by Tribal members, at least two archaeological sites qualify as ethnographic landscapes, including the Foxtrot Petroglyph site and the Lavic Lake rock alignments.

3.5.4 Monuments and Memorials

Monuments and memorials would only be considered cultural resources if found to be eligible for the NRHP under Criteria Consideration F, which states that a property primarily commemorative in intent can be eligible if design, age, tradition, or symbolic value has invested it with its own historical significance. Such a resource's significance comes from its value as a cultural expression at the date of its creation. Therefore, a commemorative property generally must be over 50 years old and must possess significance based on its own value, not on the value of the event or person being memorialized (NRHP 1997). 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.

3.5.5 Combat Center Resources

The cultural resources within the Combat Center have been extensively surveyed, inventoried, and evaluated by numerous investigations. The only resource listed on the NRHP at this time is CA-SBR-161, the Foxtrot Petroglyph site. 835 plus sites have been evaluated with the Combat Centers determinations; these sites require consultation and concurrence from SHPO. It is anticipated over 400 of these sites will be eligible for the NRHP.

3.6. Curation

Curation of artifacts is a significant issue for most Federal agencies. In accordance with Federal regulation 36 CFR 79 deals specifically with the curation of archeological collections. These regulations establish definitions, standards, procedures and guidelines to be followed by federal agencies to preserve archeological collections of prehistoric and historic material recovered under the authority of the Antiquities Act (16 USC 431-433),

the Reservoir Salvage Act (16 USC 469-469c), Sections 106 and 110 of the NHPA and the Archeological Resources Protection Act (16 USC 470aa-mm). Archeological collections must be curated and not merely warehoused or stored. A curation facility is specifically designed to serve as a physical repository where collections and records are sorted, repackaged, assessed for conservation needs, and then placed in an appropriate, environmentally controlled, secure storage area. The main objective of the archeological curation program is the long-term management, preservation, and accessibility of pre-existing and newly obtained archeological collections.

Per MCO 5090.2 Volume 8, Chapter 3, curation is the management and preservation of an archaeological collection, including all associated documentation, according to professional museum and archival practices to insure long-term care and protection of that collection. The overall goal of the Federal curation program is to ensure the preservation and accessibility of cultural resource collections and documents for use by members of the public interested in the archaeology and history of the region. The installation Commander must ensure that all archaeological collections and associated records, as defined in MCO5090.2 Volume 8, Chapter 3, comply with 36 CFR part 79.

All archeological collections and fossil specimens acquired from the Combat Center are curated at the Archeology and Paleontology Curation Center, though collections that are currently under analysis are temporarily housed at contractors' facilities. The Curation Center was completed in April 2006 and has improved collections management at the Combat Center by ensuring compliance with 36 CFR 79, increasing the availability of collections to researchers, and providing public outreach and educational opportunities. The 2,500-sq ft Curation Center is environmentally controlled, and currently contains over 450,000 artifacts and fossil specimens from over 500 archeological and paleontological sites. In addition, the Curation Center grounds contain the Cultural Heritage Garden, an ethnobotanical garden designed to educate the public about traditional Native American plant uses, as well as the Butterfly and Hummingbird Nectar Garden, a water-wise garden designed to support pollinator species.

Curated artifact assemblages include debitage, ground and flaked stone tools, pottery, shell, and bone. Collections also include historical (metal and glass) and paleontological remains and geological and biological samples (soil, pollen, phytolith and some faunal samples). All associated field and analytical records, including site records, field notes and maps, acquisition records, catalog and artifact inventory lists, and all photographic documentation are also curated at the facility. All materials submitted by contractors are required to be cataloged and packaged according to accepted archival standards. Upon arrival, all materials are cataloged and tracked in the Combat Center Collections Management System (CMS) (PastPerfect 5.0 CMS software).

The Combat Center houses its collections and related documents at its Archeological and Paleontological Curation Center (APCC) located aboard the Combat Center at buildings 1091 and 1093 Del Valle Rd. The Combat Center houses more than 1032 cubic feet of artifacts and 154 linear feet of records at this facility and fully complies with 36 CFR 79. By curating the artifacts and records at the APCC facility, they are accessible for continuing study by qualified researchers and tribal members upon request.

Material must be cataloged, labeled, and packaged for storage in accordance with the current Federal regulation 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

4. Cultural Resources Management

This portion of the ICRMP update describes the objectives, priorities, goals, and task items to accomplish the legal compliance requirements for the management of cultural resources aboard the Combat Center. The cultural resources management strategy at the Combat Center has been developed following practices based in scientific techniques and processes as well as experience with military needs and requirements.

4.1. Goals, Objectives, and Tasks for the Cultural Resources Program

1. Strengthen the Combat Center's operational capabilities

- 1.1. Streamline Section 106 compliance
 - 1.1.1. Consult on recurring facility actions in the built environment
 - 1.1.2. Complete consultation on the Programmatic Agreement amongst MAGTFTC, ACHP, and SHPO
- 1.2. Continue using the ICRMP for cultural resources management
 - 1.2.1. Annually report ICRMP implementation and effectiveness to SHPO, Tribes, and HQMC, including program deficiencies and corrective actions
 - 1.2.2. Review and update the ICRMP annually in consultation with SHPO and Tribes
 - 1.2.3. Formally revise the ICRMP every five years in consultation with SHPO and Tribes
- 1.3. Coordinate cultural resources management with training area users
 - 1.3.1. Review changes to the Range, Training Area, and Airspace SOPs to ensure conservation of cultural resources and compliance with regulations
 - 1.3.2. Ensure Restricted Areas protecting key cultural resources are maintained
 - 1.3.2. Provide awareness training to personnel using the training areas
- 1.4. Provide adequate staff support to the cultural resources program
 - 1.4.1. Ensure staffing levels are adequate to implement the ICRMP and any regulatory documents
 - 1.4.2. Maintain appointment of a CRM responsible for implementing the ICRMP and any regulatory documents
 - 1.4.3. Ensure annual Individual Development Plans are developed for each member of the cultural resources staff that include adequate training specific to the individual
 - 1.4.4. Support, as funding allows, implementation of individual IDPs

2. Respect and support Tribes' relationships to resources

- 2.1. Incorporate points of view from Tribes into resource management

- 2.1.1. Provide at least semi-annual coordination meetings on cultural resources program implementation
- 2.1.2. Include Tribes as stakeholders in development of the Integrated Natural Resources Management Plan
- 2.1.3. Update the Combat Center's ethnographic context in partnership with Tribes
- 2.1.4. Develop acquisition methods for acquiring tribal monitoring
- 2.1.5. Provide draft cultural resources studies and reports to Tribes for their review and input

- 2.2. Support continued tribal connection with the landscape
 - 2.2.1. Develop agreements allowing for Tribes to collect plant materials from the Combat Center for traditional uses
 - 2.2.2. Research legal requirements for providing parts of protected animal carcasses to Tribes for traditional uses
 - 2.2.3. Coordinate with Tribes for ceremonial access to Combat Center lands, if requested

- 2.3. Continue supporting sovereignty of Tribes
 - 2.3.1. Conduct government-to-government consultation with Tribes as appropriate
 - 2.3.2. Provide support for cultural resources training and associate travel by Tribes, subject to Federal law
 - 2.3.3. Establish in-house archaeological training and experience opportunities for Tribes, subject to Federal law

- 2.4. Partner with Tribes and other organizations on cultural resources conservation
 - 2.4.1. Contact the Native American Land Conservancy and the Cultural Conservancy to solicit interest regarding partnership under DoD's Readiness and Environmental Protection Integration program (REPI).
 - 2.4.2. Partner with tribes to develop an ethnobotanical garden, document related traditional practices, and develop an associated interpretive program at the Curation Center.

3. Comply with regulatory requirements

- 3.1. Identify cultural resources aboard the installation
 - 3.1.1. Make regular progress toward systematic survey of 100% of the Combat Center.
 - 3.1.2. Ethnographic inventory of TCPs, Sacred Sites, and other areas of significance

- 3.2. Evaluate cultural resources aboard the installation
 - 3.2.1. Consult on the backlog of evaluation reports
 - 3.2.2. Make regular progress toward evaluation of 100% of sites for NRHP eligibility
 - 3.2.3. Evaluate appropriate areas as historic districts eligible for NRHP listing

- 3.3. Ensure complete and meaningful consultation with SHPO and Tribes
 - 3.3.1. Review potential undertakings through requests for environmental impact review
 - 3.3.2. Conduct Sec 106 consultation with SHPO and Tribes, as appropriate
 - 3.3.3. Implement procedures that allow better consideration of Tribal concerns by SHPO
 - 3.3.4. Support CLEO investigations of unauthorized impacts to historic properties
 - 3.3.5. Report unauthorized impacts to SHPO, Tribes and ACHP if required
 - 3.3.6. Maintain cultural resources compliance records

- 3.4. Curate Combat Center collections per 36 CFR 79
 - 3.4.1. Conduct annual inspections of the Curation Center facility and practices
 - 3.4.2. Conduct annual inventory of a sample of the collections
 - 3.4.3. Conduct 100% inventory of the collections every 10 years
 - 3.4.4. Renovate the Curation Center Annex to meet Federal curation standards
 - 3.4.5. Transition curation records to Past Perfect 5.0
 - 3.4.6. Conduct a feasibility study for curating joint, regional DoD collections

- 3.5. Ensure compliance with NAGPRA
 - 3.5.1. Re-examine past reports to determine whether additional sites aboard the Combat Center may be subject to NAGPRA
 - 3.5.2. Re-examine collection records to determine whether any collections may be subject to NAGPRA
 - 3.5.3. Consult with Tribes on the NAGPRA review of reports and curation records reviews
 - 3.5.4. Develop a NAGPRA Action Plan in consultation with Tribes
 - 3.5.5. Develop a NAGPRA Comprehensive Agreement with Tribes
 - 3.5.6. Conduct NAGPRA consultation with Tribes, as necessary

4. Ensure responsible stewardship of cultural resources aboard the Combat Center

- 4.1. Monitor and control cultural resource degradation
 - 4.1.1. Install engineering controls (e.g., signs, fencing) to reduce unauthorized entry into Restricted Areas
 - 4.1.2. Continue CLEO patrols of Restricted Areas and other resources
 - 4.1.3. Facilitate CLEO enforcement duties by providing field-capable geospatial and archaeological data
 - 4.1.4. Assess the condition of all historic properties at least every five years

- 4.2. Manage cultural data for effective resource management
 - 4.2.1. Collect cultural resources spatial data into the Combat Center GIS
 - 4.2.2. Verify the accuracy and completeness of cultural resources data
 - 4.2.3. Ensure appropriate data is entered into the Marine Corps' enterprise GIS
 - 4.2.4. Develop data protection procedures to minimize leakage

- 4.3. Provide special focus on conserving rock art
 - 4.3.1. Prepare a Rock Art Preservation and Management Plan
 - 4.3.2. Record (or re-record) rock art sites using modern applications and techniques
 - 4.3.3. Develop a cultural context for rock art aboard the Combat Center

- 4.4. Nominate historic properties to the NRHP
 - 4.4.1. Develop a nomination plan identifying priorities and timelines for nomination
 - 4.4.2. Prepare and submit a nomination package for the Emerson Lake area
 - 4.4.3. Prepare and submit a nomination package for the Surprise Springs area
 - 4.4.4. Prepare and submit a nomination package for the Deadman Lake area

- 4.5. Improve community understanding and appreciation of cultural resources
 - 4.5.1. Develop a community outreach plan
 - 4.5.2. Develop online interpretive materials (e.g., online artifact display and interpretation; virtual tours of historic properties)
 - 4.5.3. Update the cultural resources awareness training provided to personnel using the training areas

- 4.6. Mitigate degradation of historic properties
 - 4.6.1. Develop and consult upon standard treatment measures for more efficient mitigation at sites with degrading integrity
 - 4.6.2. Stabilize natural erosion at site CA-SBR-14541/H
 - 4.6.3. Close unnecessary roads transiting through Restricted Areas.

- 4.7. Broaden knowledge of this regions' past through cultural resources, geomorphic and ethnographic studies
 - 4.7.1. Develop and prepare a Clovis Era Site Study in Noble Pass training area.
 - 4.7.2. Develop and prepare a geomorphic study of desert pavements aboard the Combat Center.
 - 4.7.3. Develop and prepare an organic residue analysis of ceramics in the Combat Center's collections.
 - 4.7.4. Develop and prepare a prehistoric trails study

4.2. Results of Previous ICRMP Implementation

The cultural resources program aboard the Combat Center encountered a complete staff turn-over between FY 2014 and FY 2015. The CRMP prior to 2015 had three full-time civil servant billets filled (two GS-12 Archaeologist and one GS-11- the Curation Facility Manager). The two archaeologist positions, including the position for a Secretary of Interior Qualified Professional to act as the CRM was vacant for over a year (filled in Aug. 2017); the curation facility manager position is currently vacant (since Feb. 2018) but is being filled by an on-board contractor. The second GS-12 Archaeologist position was recently filled in March 2020.

These circumstances created a serious gap in the cultural resources program, and the ability to fulfill any of the outlined goals of the last executed ICRMP (FY 2012- FY2016).

Despite the pitfalls to the cultural resources program, a series of studies, inventories, evaluations, management and other projects and procedures have been completed by the Combat Center since the previous ICRMP (MCAGCC Twentynine Palms 2012 through 2016). The following section describes these projects, and summarizes the status of the Combat Centers cultural resources program with respect to the goals identified in the 2011 ICRMP, including existing needs (see Table 8 on following page).

Table 8: Overview of 2012-2016 ICRMP Goals

Priorities	Status
Inventory of Maumee Mine Rock Art site	Completed
Segregated Lithic Site Management Study: Treatment & Programmatic Approach Agreement with SHPO	This Study was expected to be completed Sept. 2012. The Combat Center is still waiting for Report in order to implement a programmatic management plan for Segregated Reduction Lithic Sites
Submitting archaeological site determinations to SHPO for concurrence on eligibility	The Combat Center currently holds over 80 formal archaeological site evaluation reports, none of which have been consulted on with SHPO to date.
Inter-division coordination via PAMS for NEPA and NHPA compliance process	There is a disconnect between other divisions and Conservation (in general) but cultural resources in particular. Many projects get entered into PAMS with good intentions but the proponents require a short turn-around (sometimes only a few days or a week, not understanding that there may be a, survey, report and consultation process that could that up to 90 days)
Inventory 35,000 acres in TAs considered maneuverable by tracked and wheeled vehicles	Completed
Rock Art Sites Treatment and Management	The long-term treatment plan that was developed in 2001 has not been implemented since the staff turn-over in FY15. A new up-to-date program for Rock Art Treatment is being developed to meet the Combat Centers obligations under the NHPA

Priorities	Status
Avoid violation of NHPA on all eligible mining districts and individual mines/mining sites by designating a special use zone around them	The special use zones were completed and several mining sites have no trespassing signs up but when the special use zones were created, they had too many categories and the use policies were convoluted leading it ineffectiveness. The multi-tier special use zones were discontinued in FY19 and replaced with two categories: Restricted and Limited use
Public Awareness Program (required by ARPA) involving the San Bernardino County Museum, the Bureau of Land Management, the Twentynine Palms Historical Society, the University of California at Riverside, the Agua Caliente Band of Cahuilla Indians, the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Fort Mojave Indian Tribe, the Morongo Band of Mission Indians, San Manuel Band of Mission Indians, and the Twenty-Nine Palms Band of Mission Indians.	The Public awareness program has suffered with the short cultural resources staff since Aug. 2017. Public outreach has been minimal but outreach has been conducted since Aug. 2017 with all of the listed Tribes.
Cultural sensitivity training for all military and civilian personnel and contractors	The CRMP no longer conducts cultural resources sensitive training. Range Safety took over briefings for contractors coming aboard the base in FY18 and are supposed to cover cultural resources. The status of what military personnel receive is unknown at this time.
Annual Historic Preservation Compliance Report	An HPCR has not been completed since FY16. The HPCR was tied to stipulations in the PA which expired and has not been renewed as of July 2020

The Combat Center experienced a data gap with the staff turnover that occurred between 2014 and 2015. The Former CRM and Conservation Branch Head retired, and all three permanent civilian staff left, leaving the Cultural Resources Management Program (CRMP) without anyone to implement an ICRMP. The next section will detail how the Combat Center has begun to fill these regulatory and compliance gaps, and what the new CRM of the Cultural Resources Management Program envisions for the future.

4.3. Regulatory Documents

The Combat Center has completed a final draft of its Programmatic Agreement to streamline Section 106 of the NHPA in consultation with the California SHPO, ACHP, Tribes and other consulting parties. The PA is currently under review by the ACHP. Until the PA is executed, the Combat Center will implement the standard Section 106 review process for all undertakings that could have an effect on historic properties. Once the PA is executed, the ICRMP will be updated to reflect the streamline Section 106 process the Combat Center will implement for actions covered by the PA. The PA, once signed and executed will codify standard management measures to avoid adverse effects to historic properties and protect cultural resources that have not been evaluated aboard the Combat Center as is required to comply with 36 CFR 800. The PA shall be in effect for five years from the date of its execution which can be extended through an amendment or terminated.

4.3.1. DoD Programmatic Memorandum of Agreement (PMOA) for WWII Temporary Buildings (1939-1946)

An earlier nationwide PMOA, drafted in 1986 and amended in 1991, facilitated NHPA compliance with regard to WWII temporary buildings. The PA established a historical context for the construction of these buildings, examples of these property types were identified and preserved, and all others can now be demolished without further consultation.

4.3.2. Program Comments

A program comment facilitates NHPA compliance requirements for an entire category of undertakings—such as renovation, demolition, or transfer, sale or lease from Federal ownership for a particular building type. Several of these are relevant to the Combat Center. These comments define streamlined procedures for installation compliance with Section 106 of the NHPA and implementing regulations 36 CFR 800 in regard to specific building types. Three program comments developed in the 2000s facilitate NHPA compliance at the Combat Center with regard to the DoD management of WWII-era Capehart and Wherry Family Housing (1949-1962), WWII and Cold War ammunition storage facilities (1939-1974), and Cold War unaccompanied personnel housing (barracks) (1946-1974). In compliance with the comments, the Navy developed supplemental historical contexts as appendices to the Army's preexisting contexts for these building types and documented a representative sample of these buildings and facilities. Installations have no further requirements to identify, evaluate, treat, mitigate, or consult with their SHPO regarding any of these buildings or facilities. Installations may proceed with actions affecting these properties without further NHPA Section 106 compliance responsibilities.

4.4. Coordination and Consultation

Cultural Resources Management duties are currently the responsibility of the Combat Centers CRM and Archaeologist.

All proposed projects aboard the Combat Center are submitted online to the NEPA PAMS system and reviewed by the NEPA Manager to ensure NEPA and NHPA compliance. The NEPA manager for Environmental Affairs Division reviews each project in PAMS for NEPA compliance and alerts the CRM of projects that also require NHPA review. The CRM reviews the project in PAMS and notifies the project requestor that the project will require SHPO consultation before approval can be granted if Section 106 is required.

In all cases that require archaeological survey or excavation, the Combat Center staff or qualified contractors will perform tasks relating to the cultural resources in order to comply with the NHPA. These regulations require that the identification and evaluation of historic properties under NRHP criteria be accomplished by a professional who meets the Secretary of the Interior's (SOI) Professional Qualification Standards for Archaeology set forth in 36 CFR 61.

4.4.1. Internal

All Federal undertakings on the aboard the Combat Center must be coordinated through the EAD Conservation Branch. The primary contact in that office is the CRM for the Combat Center.

The NEPA manage will review proposed projects and notify the cultural resources program staff that a project requires review. The CRM will determine if the undertaking falls within the scope of and is applicable under Section 106 of the NHPA. If the CRM determines that the project does require Section 106, the CRM shall determine the APE and the CRM or cultural resources program staff will investigate whether or not an adequate survey has been performed in each project's APE. The CRM utilizes the information in the PAMS module to obtain information on planned projects that may affect cultural resources during the early planning phase. In the event cultural resources are identified in an undertaking's APE, the CRM will follow the procedures in 36 CFR 800 for identification of historic properties. All cultural resources will be afforded the same level of protection as that specified under the NHPA and ARPA for NRHP purposes until qualified professionals conduct a formal evaluation. Cultural resources that are determined to not be NRHP-eligible, that have no known Native American sacred association, or are not otherwise identified as Traditional Cultural Properties will not be afforded further protection once the site(s) have been consulted on with the Tribes and SHPO.

4.4.2. Tribal Consultation

Each time an undertaking is proposed, Section 106 of the NHPA requires a consultation communication with the Native American tribes claiming ancestral use of the Combat Center lands. Accordingly, the Combat Center, the SHPO, and the ACHP should be sensitive to the special concerns of Native American tribes in historic preservation issues, which often extend beyond Native American lands to other historic properties (43 CFR 10, U.S.C. 1996-1996a, EO 13007, EO 13084, EO 13175, SECNAV Instruction 11010.14). When an undertaking will affect traditional or historic territories of Native American tribes, the Combat Center must invite the governing body of the tribes to be a consulting party and to concur in any formal agreements. When an undertaking may affect properties of historic value to a non-federally recognized

Native American tribe on non-Native American lands, the consulting parties shall afford such tribe the opportunity to participate as consulting parties or interested person.

Traditional cultural leaders and other Native Americans are considered to be interested persons with respect to undertakings that may affect historic properties of significance to such persons. A full list of current POCs for consulting Tribes is in Appendix 10.

To facilitate the consultation process, consultations are delegated to the CRM by the Commanding General. Tribes included in the process are listed in Section 1.3. Native American consultation is discussed in more detail in SOP No.2.

Tribal Consultation Program

USMC will seek information and advice from tribal governments through government-to-government consultation. The USMC will provide the Native American tribe a reasonable opportunity to identify its concerns about historic properties as well as identification and evaluation of historic properties including those of traditional religious and cultural importance and an undertaking's potential effects on such properties and measures to avoid adverse effects.

Native American consultation and coordination is undertaken at the Combat Center in the spirit of the 1994 Executive Order on government-to-government relations with Native American tribal governments. Consultation follows 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 (identified in Section 1.3) on a government-to government basis. Non-Federally recognized tribes are consulted as interested parties and as consulting parties as defined in NHPA. The Combat Center routinely works with these Tribes for NEPA, NHPA, and NAGPRA compliance

To facilitate the consultation process, consultations are delegated to the Installation CRM by the Base Commander. Tribal consultation will be conducted through meetings, submittal of reports, email, phone conversations, and official correspondence.

- A. **Annual Reports.** USMC will prepare and submit annual Reports summarizing all undertakings implemented within the fiscal year (beginning 1 October through 30 September). Tribes will be requested to provide comments within two weeks of receipt.
- B. **Semi-Annual Consultation Meetings:** Tribal consultation meetings will be held every six months (semi-annually) at a minimum.
- C. **Native American (Tribal) Monitoring.** When an undertaking is determined to require monitoring due to the nature of the undertaking and the APE includes an archaeological sensitive area, monitoring may be required by a professional archaeologist and a Native American (tribal) monitor to avoid adverse effects or facilitate possible discovery of potential historic properties (post-review discovery)
- D. **Tribal Monitors.** Tribal monitors are designated as monitors by tribes due to their specialized knowledge in religious and cultural significance for the tribe they represent.

4.4.3. ACHP

The ACHP may participate in the Section 106 consultation process, if invited, or if comments are requested from any consulting party. Upon such request, the ACHP has 15 days in which to respond as to whether it will participate, and if it does so, it has 45 days to provide comment. Additionally, copies of all agreements are to be provided to the ACHP. The Council's office address is: ACHP, 401 F Street NW, Suite 308, Washington, DC 20001-2637.

4.4.4. California State Historic Preservation Officer

The SHPO coordinates state participation in the implementation of the NHPA and is a key participant in the Section 106 process. The role of the SHPO is to consult with and assist the Combat Center when identifying historic properties, assessing effects upon them, and considering alternatives to avoid or reduce those effects. The SHPO reflects the interests of California and its citizens in the preservation of their cultural heritage, and helps the Combat Center identify those persons interested in an undertaking and its effects upon historic properties. Under the Section 106 process (36 CFR 800), if the SHPO does not respond within 30 days of receipt of a written request for a review of a finding or determination, the Combat Center may either proceed to the next step of the process based on the finding or determination, or consult with the ACHP in lieu of the SHPO (36 CFR 800.3[4]) (see Figure 10). All "undertakings" at the Combat Center that fall under Section 106 must be coordinated with the SHPO. An "undertaking" is defined as:

... a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency [36 CFR 800.16(y)].

SHPO consultation is also required for eligibility determinations made as part of Section 110 compliance and in the development of PAs. It is preferable for the SHPO to review ICRMPs, although this is not regulatory responsibility.

4.4.5 Public Participation

The Combat Center should take into account the views of the public on historic preservation questions and encourage maximum public participation in the Section 106 process (36 CFR 800.3[e]). The Combat Center and the SHPO should seek and consider the views of the public when taking steps to identify historic properties, evaluate effects, and develop alternatives. Public participation in the Section 106 process may be fully coordinated with, and satisfied by, public participation programs carried out at the Combat Center under the authority of the NEPA

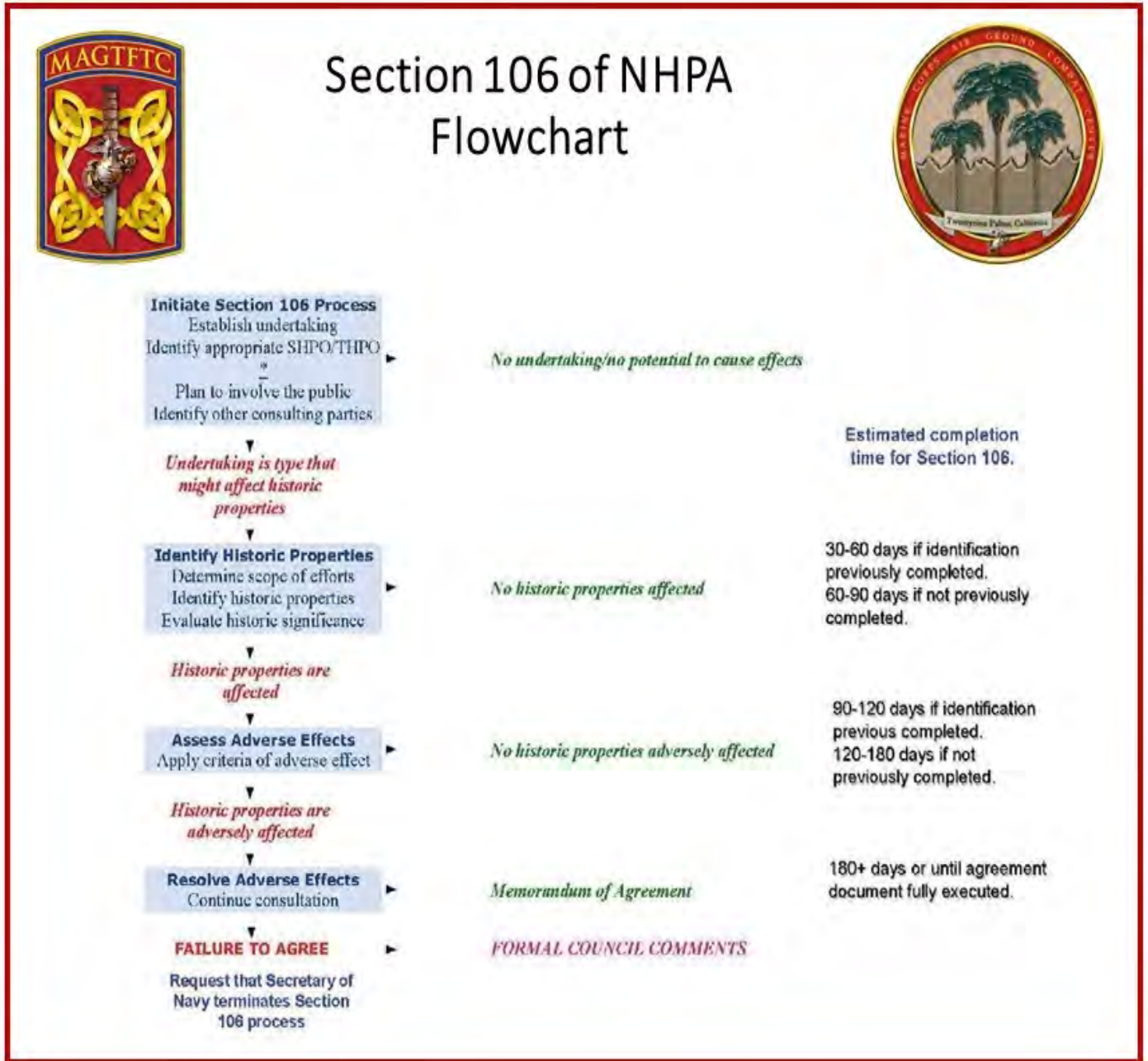


Figure 15: Section 106 flow Chart

and other pertinent statutes. Notice to the public under these statutes should adequately inform the public of preservation issues in order to elicit public view on such issues that can then be considered and resolved, when possible, in decision-making. Members of the public with interests in an undertaking and its effects on historic properties should be given reasonable opportunity to have an active role in the Section 106 process.

4.5. Data Management

In 2017 a file geodatabase of spatial data was created to contain all the archaeological geospatial data deliverables in a number of features classes including:

- Point: Archaeological Site Date
- Polygon: Archaeological Site Boundary
- Point: Isolated Object (IO)
- Polygon: Isolated Object (IO)
- Polygon: Natural/Cultural Restricted Areas
- Polygon: Cultural Surveys
- Polygon: Landing Zones- Go, Slow-Go, and No-Go

The schema for the archaeological GDB is based on the Fort Bliss Archaeological GDB schema designed by B. Mollard. The geospatial data will be updated quarterly (at a minimum) and sent to the Combat Centers consulting Tribes. Access to archaeological site location data is restricted. Locational information of all archeological sites included in the Combat Centers Archaeology GDB is confidential in accordance with Section 304 of the NHPA and Article 9 of the ARPA.

In January of 2020 all curatorial data contained in an Access Database was converted to PastPerfect CMS software format and the CMS software is being utilized for management of all accessions, catalogs, and library bibliography of all reports. A copy of the Curation Facility Access Database has been archived on CD, on the MCEN server and an encrypted external hard drive.

4.6. Training and Outreach

Public outreach is a proactive method of partnering with interested parties to achieve long-range goals and solicit cultural resources program support. The APCC's small display and interpretation room is publicly accessible (with advanced coordination). The Combat Center also provides annual Earth Day tour (to a group of no more than 30 on a first come, first serve bases) to the Foxtrot Petroglyph site.

One of the Cultural Resources Management Program goals is increased public outreach to provide further possibilities for members of the public to learn about cultural resource activities conducted aboard the Combat Center. To reach that goal, the Combat Center is developing an environmental education and cultural resource awareness program to broaden the exposure of base personnel, staff, and the public about heritage values, the fragile quality of historic properties, and the importance of preserving them. This public outreach plan will first identify internal and external target audiences as well as identify cultural resources themes that will focus interpretation and education materials on specific topics that are most important to the target audience. A public outreach effort including a cultural resources webpage as part of the official Combat Center public website will be part of this program. The public outreach plan will identify and recommend various interpretation and education methods, including heritage tourism and heritage education, and seek partnerships and cooperative Agreements. This plan will include a 5-year implementation strategy with goals and objectives, identify specific tasks needed to achieve these goals, and prioritize and evaluate future decisions on public outreach.

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Appendices

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Appendix 1.
Standard Operating Procedures
SOPs

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Appendix 1

STANDARD OPERATING PROCEDURES

As indicated in Chapter 1, The Combat Center is responsible for compliance with a wide range of laws, regulations, policies, and directives related to cultural resources. This chapter addresses procedures aboard the Combat Center to support the installation's compliance with these requirements. In general, the NHPA and its implementing regulations (36 CFR 800) are the most frequently applicable requirements. Because the laws and regulations form the basis of most day-to-day cultural resources compliance activities, they are discussed in more detail following the applicable SOPs. This chapter also includes guidance for meeting other requirements, including compliance with NAGPRA, ARPA, and the treatment and curation of archaeological collections.

The CRM is the delegated representative for the Commanding Officer ("Agency Official") for coordination and consultation with outside entities, including the SHPO, Native American tribes, local governments, and other interest groups for cultural resource management (MCO 5090.2 Volume 8, Chapter 3). With minor exceptions, all actions that could result in impacts to cultural resources are reviewed during the project review process, which also ensures compliance with NEPA and other environmental requirements. Other Combat Center departments, such as Public RTAMS and MCCS, play important roles for the planning and execution of activities and projects aboard the Combat Center.

SOP # 1: NHPA SECTION 106 COMPLIANCE

Contact: The Combat Center CRM: (760) 830-7641

Purpose: To outline the steps to comply with the NHPA Section 106 review process.

Application: This SOP applies to projects that have been defined as undertakings under 36 CFR 800. An undertaking is:

project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency [36 CFR 800.16 (y)].

If a project, or undertaking, has the potential to affect a historical property, then Section 106 review is required. This SOP relates to the identification and evaluation of historic properties for individual undertakings, assessing the effects of such undertakings, and resolving potentially adverse effects for those projects.

Procedures:

- 1) Project proponent submits project information into PAMS module;
- 2) NEPA manager reviews project and notifies the CRM in PAMS if there are potential impacts to cultural resources and a project must be reviewed by their office;
- 3) CRM or cultural resources staff reviews the project and defines the APE and identifies historic properties;
- 4) Assess effects of the undertaking on historic properties;
- 5) If undertaking does not affect or adversely affect historic properties, consult with SHPO and Tribes on finding of effect before proceeding with undertaking;
- 6) Consult with the SHPO, Native American Tribes, and other interested parties regarding adverse effects on historic properties, resulting in a MOA;
- 7) Consult with the ACHP and provide them with the option of participating in the consultation;
- 8) Submit the MOA to the ACHP; and
- 9) Proceed in accordance with the MOA.

Any project, activity, or program that can result in changes in the character or use of historic properties, if any such properties are located in the area of potential effects. The project, activity, or program must be under the direct or indirect jurisdiction of a federal agency or licensed or assisted by a federal agency. Undertakings include new and continuing projects, activities or programs and any of their elements not previously considered under Section 106.

Areas of planned activities that have potential to disturb the ground, such as maintenance activities and proposed new development, are surveyed as part of required Section 106 compliance actions. In a proposed undertaking planning stage, the Directorate in charge of the activity consults with the CRM through the PAMS system to inform the CMR and other environmental reviewers of the location and nature of the activity. The CRM will determine if the APE has been surveyed previously for cultural resources, and if it contains known cultural resources. If the CRM finds that the area has not been surveyed, the CRM may assist in arranging for archaeological survey of the APE. The CRM then completes all consultations as required by the NHPA. If cultural resources are identified in the APE, they are either avoided by project activities or evaluated to determine if they meet the criteria for listing on the NRHP. If NRHP-eligible resources are identified within the APE, appropriate measures are taken which may include avoidance or mitigative measures.

If the CRM determines that the proposed activity will not affect historic properties, then the proposed activity may proceed. If the CRM determines that the proposed activity will have an adverse effect on a historic property that cannot be avoided, MAGTFTC will consult under 36 CFR 800.5 and 36 CFR 800.6.

SOP # 2: NATIVE AMERICAN CONSULTATION

Contact: The Combat Center CRM: (760) 830-7641

Purpose: Provides guidelines for Native American consultation.

Application: This SOP applies to communications with Native American groups and individuals regarding cultural resources, and the ways in which their religious and cultural interests can be

addressed. Federal requirements, as well as DoD policies, define two primary aspects of consultation with Native Americans: 1) as a government-to-government relationship related to ownership, use, access, and disposal of properties of significance to Native Americans; and 2) as interested parties in consultation pursuant to the NHPA and NEPA. To facilitate efficient consultation, a conciliatory relationship with tribal representatives should be maintained at all times. Addresses of the Tribes typically contacted by the Combat Center are provided in Appendix 10.

Procedures: The CRM

- 1) Will consult with tribes and interested parties which will have a 30-day review period. Comments from the tribes and interested parties will be incorporated into the SHPO Consultation.
- 2) Contacts each of the above groups where there are potential adverse effects to archaeological sites of Tribal interest or ethnographic landscapes as a result of project-specific actions taken by MAGTFTC.
- 3) Contacts each of the above groups for comment on data recovery projects at archaeological site of Tribal interest at the Base.
- 4) Provides the above groups with copies of reports regarding survey, inventory and evaluation of cultural resources aboard the Combat Center.
- 5) Addresses questions that any of the groups have regarding archaeological site management on the Base.
- 6) Implements NAGPRA consultation if any burial or burial associated items are identified on the Base (see SOP #10).

SOP # 3: Archaeological Resources Record Searches and Surveys

Contact: The Combat Center CRM: (760) 830-7641

Purpose: To provide procedures for the conduct of archaeological resources record searches and surveys (site inventories) for planning purposes.

Application: For general land-use planning, as well as regulatory compliance, an archaeological resources record search must be conducted for a proposed project area to determine whether or not any known cultural resources exist within the project area. This record search is necessary for compliance with NHPA Section 106 review and NHPA Section 110.

Procedures:

- 1) At early stages in project planning, CRM determines the project APE;
- 2) Examine project APE plus buffer and the Combat Center Cultural GIS Database to determine if APE and buffer have been previously surveyed and/or whether they contain known cultural resources;

- 3) If known cultural resources are located in project area, or if portions of the project area have not been adequately surveyed, determine if an archeological consultant is needed to conduct survey and provide a survey report or if it can be completed in-house;
- 4) Survey report should include historical contexts, summary of existing studies, methodology, maps of survey coverage, and identification of any resources located including map of approximate site boundaries using GPS equipment meeting the Combat Centers geo-data requirements;
- 5) For each newly identified site, the report should also include completed California DPR 523A, 523C, 523K, and 523J forms. For each newly identified isolate, the report should include completed California DPR 523A and 523J forms. As appropriate or necessary, additional forms should be included for specific resource types (e.g., building or structure record [DPR 523B], milling feature record [DPR 523F], etc.);
- 6) For previously recorded sites, report should include site updates using California DPR 523L forms;
- 7) CRM provides approval on the adequacy of the proposed project's Scope of Work, verifying that it represents a "reasonable and good faith effort" to identify potential historic properties within the APE, in accord with 36 CFR 800.4(b)(1), as appropriate. Submit completed DPR forms to the South Central Coast Information Center (SCCIC) and obtain Primary Numbers and Trinomials for newly identified sites, and Primary Numbers for isolated artifacts.

All discovered sites are treated as eligible for listing on the NRHP until the determination of eligibility is final (see SOP No. 5). Recommendations are crafted based on a proposed project or action. If there are no immediate plans for a property, recommendations may include avoidance.

Current contact information for SCCIC is:

California State University Fullerton
Department of Anthropology
800 North State College Blvd.
PO Box 6846
Fullerton, CA 92834-6846
Coordinator: Ms. Stacy St. James
Phone: 657-278-5395
Email: sccic@fullerton.edu
Web: <http://anthro.fullerton.edu/sccic/>

SOP # 4: SUPPORT OF NEPA COMPLIANCE

Contact: The Combat Center CRM: (760) 830-7641

Purpose: To provide procedures for integrating cultural resource reviews with the NEPA review process at the Combat Center.

Application: To provide the instructions and describe the structure and work flow for NEPA compliance at MCAGCC.

Procedures:

- 1) A project sponsor partly completes a Request for Environmental Impact Review (REIR) per CCO 5090.4 in the PAMS system;
- 2) The NEPA Manager reviews the REIR and forwards it to appropriate environmental reviewers and subject matter experts (SME);
- 3) Environmental staff reviewers complete the REIR documenting one of the following recommendations: the proposed action falls within a Programmatic Categorical Exclusion (CATEX) or is a continuing activity that is not likely to cause substantial environmental degradation, or the proposed action requires either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS);
- 4) If a project is determined to be a CATEX, it still may require Section 106 review and consultation;
- 5) If the project requires an EA or an EIS, the Section 106 process can be integrated with the NEPA process per 36 CFR § 800.8(c): “Use of the NEPA process for section 106 purposes,” authorizes agencies to use the procedures and documentation required for the preparation of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) or an Environmental Impact Statement (EIS) and Record of Decision (ROD) to comply with Section 106 in lieu of the procedures in 36 C.F.R. § 800.3 through 36 C.F.R. § 800.6 of the Section 106 regulations.

SOP # 5: TREATMENT OF NRHP LISTED OR ELIGIBLE RESOURCES

Contact: The Combat Center CRM: (760) 830-7641

Purpose: To provide procedures for the treatment of significant (NRHP-eligible) cultural resources.

Application: This SOP applies to archaeological sites and historical resources that have been determined eligible for the NRHP and are therefore historic properties. Cultural resources are deemed significant if they have been determined eligible for listing, or are listed, in the NRHP. Significant resources must be managed by the Combat Center, and adverse effects to such resources must be avoided or mitigated.

Procedures:

- 1) Whenever possible, passive preservation of archaeological sites is the preferred management approach. Where needed, fencing and/or marking with Endangered Species or general Sensitive Resource Area signs/marker can be used to prevent damage to archaeological sites of importance;
- 2) In cases where archaeological sites are listed or eligible for NRHP listing, a periodic monitoring program ensures that the resources do not suffer from natural or cultural degradation or destruction;

- 3) If adverse effects cannot be avoided, as determined through the Section 106 consultation process, a historic properties treatment plan must be developed and should be reviewed by the SHPO, and Native American tribes (if appropriate), and the ACHP should be notified;
- 4) Adverse effects to historical and cultural landscapes shall be mitigated using Historic American Landscape Survey (HALS) documentation in addition to at least one other form of mitigation.

Background: Mitigation measures vary, depending upon the nature of the cultural resource.

Data Recovery for archaeological sites includes mapping and controlled surface collection, subsurface excavations, mapping and photography of surface and sub-surface features, and artifact analyses and interpretations, following the research design in the Treatment Plan. The goal of Data Recovery is the acquisition and preservation of a representative sample of the site's contents, including artifacts and features. Generally, larger sites will require proportionally smaller samples than are adequate for smaller sites. All artifacts recovered during data recovery must be properly processed and curated per 36 CFR part 79.

Historic American Landscape Surveys Focuses on historic and cultural landscapes. HALS combines measured drawings and interpretive drawings, written histories, and large-format black-and-white photographs and color photographs to produce a comprehensive, multidisciplinary record that ranges in scope with a site's level of significance and complexity. For HALS, the focus on landscape rather than buildings or structures has shaped the elements of the documentation in distinct ways to take on perspectives of landscape architecture and ethnography.

SOP # 6: ARPA PERMITTING & COMPLIANCE

Contact: The Combat Center CRM: (760) 830-7641

Purpose: To provide guidance for issuing ARPA permits.

Application: ARPA permits are required when a proposed archaeological project is located on Federal land, will involve excavation and/or the collection of artifacts, and when the individuals or parties involved are not directly contracted by or on behalf of the Combat Center. ARPA is intended to protect archaeological resources, which are defined as, for the purposes of this law, objects that are 100 years or older in age. ARPA permits can take up to six months to acquire

Procedures:

- 1) Upon receipt of an ARPA permit request, the CRM, on behalf of the installation CG, consults with culturally affiliated Native American tribes and documents this consultation as part of the record of each such permit;
- 2) CG provides the approval to issue the permit by means of a report of availability;
- 3) Review requirements of MCO 5090.2 Volume 8, Chapter 3;
- 4) Contact the Combat Center CRM for the current permit format to be used.

Background: ARPA permits must provide for the disposition of NAGPRA cultural items; that is, Native American sacred objects and funerary artifacts. ARPA permits must further require that:

- Any interests that Federally recognized tribes may have in the permitted activity are addressed in a manner consistent with the requirements of the NHPA and NAGPRA prior to issuance of the permit;
- Permitted activities are conducted according to the SOI's applicable professional standards;
- The excavated archaeological artifact collection and associated records are permanently housed in a curation facility that meets the requirements of 36 CFR 79.

Archaeological resources, objects of antiquity, and significant scientific data from Federal installations belong to the installations, except where NAGPRA requires repatriation to a lineal descendant or Federally recognized tribe.

This SOP implements the provisions of Public Law 9696 (93 Stat. 721; 16 United States Code [U.S.C.] 470aa470mm), the ARPA of 1979, and the final uniform regulations issued under the Act (32 CFR 229)

Per this Act, it is a federal offense to excavate, remove, damage, alter, or otherwise deface archaeological resources on federal lands without authorization. The sale, purchase, exchange, transport and/or receipt of archaeological resources obtained in violation of this law also are federal offenses. ARPA outlines illegal activities and prescribes civil and criminal penalties for each infraction, establishes a permitting process for removal of archaeological resources from public and Indian lands, and provides for the confidentiality of archaeological site location information.

The CRM at the Combat Center coordinates with Conservation law enforcement officials, MAGTF Training Directorate (Operations and Training Division), and other appropriate staff to enforce ARPA. In the case of ARPA violations the Combat Center CLEO identifies and detains the suspects, and immediately notifies the CRM, NEPA manager, and the Provost Marshall's Office. The latter determines the course of the criminal investigation, while the CRM or cultural resources staff will be responsible for conducting a damage assessment at the archaeological site affected by illegal activities.

- Documentation procedures for ARPA violations begin with an investigation of the looting or vandalism of an archaeological site. A systematic examination of the crime scene by both a law enforcement investigator and a professional archaeologist is required. The law enforcement officer is responsible for investigating violations of the law, and therefore directs the archaeological crime scene investigation process. The archaeologist provides expertise on archaeological resources for the crime scene investigation and is responsible for archaeological site documentation and completion of a damage assessment report. The archaeologist may be requested to assist in other activities including taking photographs, testifying, helping with crime scene sketches or providing assistance in collecting the archaeological evidence. In some cases, other experts may be part of an investigation team, to include geoarchaeologist, forensic anthropologist or Tribal representatives.

Investigative goals for an ARPA violation should include:

- Identify the entire crime scene
- Maintaining the integrity of the crime scene
- Discover all available facts
- Identify and collect all evidence
- Utilize proper forensic standards
- Successfully prosecute

SOP # 7: INADVERTENT DISCOVERY OF CULTURAL MATERIALS

Contact: The Combat Center CRM: (760) 830-7641

Purpose: Provide guidance when archaeological remains are unexpectedly discovered during operations or construction.

Application: This SOP applies to actions necessary when unanticipated cultural materials or historic properties are discovered at any phase of a project, for example, during construction excavation and grading. Archaeological resources, including artifacts, sites and human remains, may be discovered in locations where they were previously not thought to be present. Alternatively, natural erosion may expose buried remains (e.g., following a major storm). Activities that may affect any such archaeological discovery must cease immediately, and appropriate steps must be taken to ensure protection until proper treatment of the archaeological resources can occur.

Procedures:

- 1) Public Works, MCCC, RTAMS, or any other division or project proponent charged with project execution, will immediately stop work within 50 meters of the discovery, secure the area, and notify the CRM;
- 2) If human remains or other potential NAGPRA-related objects (see SOP No. 8) are identified, the CRM will be notified by phone immediately. If the CRM cannot be reached immediately, the Conservation Branch Head or a CLEO shall be contacted.
- 3) Given the nature of the discovered remains, CRM will consider the applicability of NAGPRA.
- 4) If the CRM determines that there are potential adverse effects, the USMC shall consult with
- 5) SHPO, ACHP, Indian tribes who may attach religious and cultural significance to the property, and other consulting parties on the potential adverse effects and possible resolution;
- 6) For approved undertakings implemented under Section 106 procedures (36 CFR 800), the USMC will follow the post-review discoveries procedures under 36 CFR 800.13 and notify the SHPO, Indian tribes that might attach religious and cultural significance to the affected property, and ACHP within 48 hours (telephone, letter or email); notification will include the nature of the discovery, steps being taken in response, and any time constraints, if

applicable. The SHPO, Indian tribes, and ACHP have 48 hours to respond. For discoveries subject to 36 CFR 800.13, the USMC shall consider recommendations made by SHPO, Indian tribes, and ACHP in their response for the NRHP eligibility of the property, the proposed actions for response, and then complete the appropriate actions. The USMC shall provide a report of the actions completed to SHPO, Indian tribes and ACHP;

SOP # 8: NAGPRA INADVERTENT DISCOVERIES

Contact: The Combat Center CRM: (760) 830-7641

Purpose: To outline the steps to comply with the NHPA Section 106 review process.

Application: This SOP provides guidance for compliance with the Native American Graves Protection and Repatriation Act. Application: This SOP applies to Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony as defined by NAGPRA (25 U.S.C. 3001 et seq.) and its implementing regulations (43 CFR 10). The proper protection and process for treatment and disposition of such human remains or cultural objects has been established by NAGPRA.

Procedures:

- 1) When items subject to NAGPRA are positively identified in the field (inadvertent discoveries), the project archaeologist (or Tribal monitor) on-site will immediately notify the CRM by phone and follow up the written notification within 24 hours;
- 2) For field inadvertent discoveries, the project archaeologist (or Tribal monitor) shall take measure to protect the discovery to include but not limited to: 1) establishing an exclusion area; 2) implementing any short-term protection measures; and 3) securing the location. The CRM will notify tribal points of contact by email or phone call within 24 hours of receiving written notification of the discovery. The CRM shall conduct a site visit as soon as possible and notify tribal points of contact in advance of the site visit. The CRM will arrange for a site visit with tribal points of contact prior to the first consultation meeting if possible. A face-to-face consultation meeting including a discussion treatment and disposition of NAGPRA-related objects shall be held 10 days after the discovery date;
- 3) If excavation or removal of NAGPRA-related items is undertaken by a government entity or their contractors, no ARPA permit is required. However, an ARPA permit is required if the activity is undertaken by a non-government entity;
- 4) All archaeological work directly associated with excavation or removal will be monitored by one Native American monitor.
- 5) Subject to consultation, the human remains or other cultural items will be stabilized, assessed in the field to determine the excavation technique, and, if being removed, moved to a locked temporary secure storage facility until reburial. Removal will only occur if it is determined that such action is necessary to protect the inadvertent discovery;

- 6) If possible, the Combat Center will make available a location within close proximity to the inadvertent discovery location for reburial of the human remains or other cultural items;
- 7) Final disposition and reburial will be based on consultation with the Tribal POC. CRM will request written confirmation of each tribe's decision following consultation.

Background: NAGPRA establishes a “systematic process for determining the rights of lineal descendants and Indian tribes to Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony with which they are affiliated” (Federal Register Vol. 60, No. 232; 43 CFR 10). The law applies to such collections in Federal possession or control, in the possession or control of any institution or state or local government receiving Federal funds, or excavated intentionally or discovered inadvertently on Federal lands. NAGPRA does not relieve the Combat Center of its responsibility to adhere to Section 106 of the NHPA (36 CFR 800) and Section 3 of the ARPA.

Briefly, NAGPRA requires:

- an ARPA permit to excavate or remove NAGPRA-related items from Federal or tribal lands, unless undertaken by a Federal employee or their contractors (43 CFR 7.5(c));
- that objects are excavated only after Native American consultation has been conducted;
- that the disposition of the objects is consistent with 43 CFR 10.6; and
- that proof of Native American consultation be provided to the agency that issued the ARPA permit.

With respect to the disposition of human remains, funerary objects and religious artifacts, 43 CFR 10.6 states that:

(a) Custody of these human remains, funerary objects, sacred objects, or objects of cultural patrimony is, with priority given in the order listed:

(1) In the case of human remains and associated funerary objects, in the lineal descendant of the deceased individual as determined pursuant to §10.14 (b);

(2) In cases where a lineal descendant cannot be ascertained or no claim is made, and with respect to unassociated funerary objects, sacred objects, and objects of cultural patrimony:

(i) In the Indian tribe on whose tribal land the human remains, funerary objects, sacred objects, or objects of cultural patrimony were excavated intentionally or discovered inadvertently;

(ii) In the Indian tribe or Native Hawaiian organization that has the closest cultural affiliation with the human remains, funerary objects, sacred objects, or objects of cultural patrimony as determined pursuant to §10.14 (c); or

(b) Custody of human remains, funerary objects, sacred objects, or objects of cultural patrimony and other provisions of the Act apply to all intentional excavations and inadvertent

discoveries made after November 16, 1990, including those made before the effective date of these regulations.

(c) Final notice, claims and disposition with respect to Federal lands. Upon determination of the lineal descendant, Indian tribe, or Native Hawaiian organization that under these regulations appears to be entitled to custody of particular human remains, funerary objects, sacred objects, or objects of cultural patrimony excavated intentionally or discovered inadvertently on Federal lands, the responsible Federal agency official must, subject to the notice required herein and the limitations of §10.15, transfer custody of the objects to the lineal descendant, Indian tribe, or Native Hawaiian organization following appropriate procedures, which must respect traditional customs and practices of the affiliated Indian tribes or Native Hawaiian organizations in each instance. Prior to any such disposition by a Federal agency official, the Federal agency official must publish general notices of the proposed disposition in a newspaper of general circulation in the area in which the human remains, funerary objects, sacred objects, or objects of cultural patrimony were excavated intentionally or discovered inadvertently and, if applicable, in a newspaper of general circulation in the area(s) in which affiliated Indian tribes or Native Hawaiian organizations members now reside. The notice must provide information as to the nature and affiliation of the human remains, funerary objects, sacred objects, or objects of cultural patrimony and solicit further claims to custody. The notice must be published at least two (2) times at least a week apart, and the transfer must not take place until at least thirty (30) days after the publication of the second notice to allow time for any additional claimants to come forward. If additional claimants do come forward and the Federal agency official cannot clearly determine which claimant is entitled to custody, the Federal agency must not transfer custody of the objects until such time as the proper recipient is determined pursuant to these regulations. The Federal agency official must send a copy of the notice and information on when and in what newspaper(s) the notice was published to the Manager, National NAGPRA Program.

Current contact information for SCCIC is:

California State University Fullerton
Department of Anthropology
800 North State College Blvd.
PO Box 6846
Fullerton, CA 92834-6846
Coordinator: Ms. Stacy St. James
Phone: 657-278-5395
Email: scbic@fullerton.edu
Web: <http://anthro.fullerton.edu/scbic/>

Pursuant to Federal and state law, the California State Historical Resources Commission (SHRC) directs the State Historic Preservation Officer (SHPO) to maintain an inventory of historical resources in California. The SHPO meets this responsibility via the CHRIS, which is administered by the Office of Historic Preservation (OHP) under SHPO authority. Historical resources information comprising the CHRIS inventory is organized by county and managed by regional CHRIS Information Centers. The Information Centers house records, reports, maps, and other documents and materials relating to historical resources, and provides information and recommendations regarding such resources on a fee-for-service basis. The SCCIC is the primary

repository for archaeological site records and reports for Los Angeles, Orange, San Bernardino, and Ventura counties in Southern California. The SCCIC currently houses approximately 13,000 archeological site and historic property records (including resources listed on the National Register of Historic Places, California Historic Landmarks, California Register of Historic Places and Points of Historic Interest), 16,000 archaeological and historic reports, and U.S. Geological survey maps.

SOP # 3: CONFIDENTIALITY OF ARCHAEOLOGICAL DATA AND INFORMATION

Contact: The Combat Center CRM: (760) 830-7641

Purpose: To provide guidelines for the treatment and distribution of archaeological data and information.

Application: This SOP applies to all archaeological data, including site records, maps and technical reports. The Marine Corps is responsible for the protection of culturally sensitive information from public disclosure. This includes Freedom of Information Act exemptions and withholding information from written summaries and transcripts. The locations of specific archaeological sites are considered particularly sensitive in this regard.

Procedures:

The Combat Center CRM will maintain information on the nature and location of archaeological sites as a confidential set of paper files and maps, and/or as a password protected set of digital databases and GIS datasets.

- 1) In accord with MCO 5090.2 Volume 8, Chapter 3, 8204, access to cultural resource information, particularly location information contained in paper files or digital databases and GIS datasets should be limited to the Combat Center CRM, cultural resource professionals under the direct supervision of the CRM, or other individuals determined by the CRM to have a substantial need to know for project planning and/or cultural resource protection or preservation purposes.
- 2) Cultural resource professionals are individuals that meet the Secretary of the Interior Professional Qualifications Standards under Archaeology, History, or Architecture, as defined in 36 CFR 61. Requests for cultural resource information from cultural resource professionals under the Combat Center or Navy contract will be made directly to the Combat Center CRM.
- 3) The Combat Center CRM will review all requests for cultural resource information made by Federal contractors under the Combat Center or Navy contract and verify that the documentation provided by the individual requesting the information adequately demonstrates that the individual meets the Secretary of Interior professional qualifications standards, or has a substantial need to know for project planning and/or cultural resource protection or preservation purposes.
- 4) Cultural resource information contained in the Combat Center cultural resource databases and GIS datasets will only be released to Federal contractors under the Combat Center or Navy contract that have provided adequate documentation (Curriculum Vita, verification of current

Register of Professional Archaeologists membership, etc.) to the CRM demonstrating that the individual requesting the information meets the Secretary of Interior professional qualifications standards.

- 5) Information regarding the location of archaeological sites, including site maps and site record forms contained in cultural resource reports produced by Federal contractors under the Combat Center or Navy contract may be included in confidential appendices that would be removed prior to dissemination of these reports to persons or entities that do not meet the Secretary of Interior professional qualifications standards, as defined in 36 CFR 61.
- 6) The location of archaeological sites will be available to project planners on a need-to-know basis, as determined by the CRM; such information cannot be included in subsequent analyses, reports, or studies that might be made available to the general public;

Background: Section 304 of the NHPA (36 CFR 800.6(a)(5)) provides for confidentiality of archaeological site locations. NRHP documentation is part of the public record and generally is made available to the public. However, many types of prehistoric and historic archaeological sites and sacred places are fragile resources that can easily be destroyed. To protect them, Section 304 of the NHPA, as amended, Section 9(a) of the ARPA, and MCO P5090.2A Ch. 3, 8204 provide authority to limit access to information about the location of vulnerable resources.

Requests for site location data from cultural resource professionals not under the Combat Center or Navy contract and those received from the general public will be referred to the South Central Coast Information Center (SCCIC) of the California Historical Resources Information System (CHRIS). Their current contact information is:

SOP # 10: DATA SPECIFICATIONS

Contact: The Combat Center CRM: (760) 830-7641

Purpose: To provide guidelines for the treatment and distribution of archaeological data and information.

Application: This SOP applies to digital data requirements for cultural resources contracts let at the Combat Center, and any archaeological research that may be permitted aboard the Combat Center. Compatibility between all digital data is critical for the maintenance and upgrading of the Combat Center cultural resources text, mapping, curation database and GIS databases. A series of different kinds of digital data are involved.

Procedures:

All cultural resources contractors and archaeological researchers working aboard the Combat Center will provide digital data in the format and to the operational standards outlined below.

Operational Standards:

A. Text, Spreadsheet, and Database Files:

- The Marine Corps standard computing software is Microsoft Office (2013 or later). Final Reports and other text documents shall be provided in the current Microsoft Word format or version currently in use by the Marine Corps AND Adobe Portable Document Format (PDF).
- Spreadsheet files shall be provided in the current Microsoft Excel format or version currently in use by the Marine Corps. Databases shall be provided in Microsoft Access format unless specified otherwise, as approved by the Government (the Combat Center CRM).
- Prior to database development, the Contractor shall provide the Government (the Combat Center CRM) with a Technical Approach Document for approval, which describes the Contractor's technical approach to designing and developing the database.
- All text, spreadsheet, and database files shall be delivered on a Compact Disk read-only memory (CD-ROM) or Digital Versatile Disc read-only memory (DVD-ROM).

B. Maps, Drawings, Sketches and Digital Geospatial Data

- Geospatial Data Software Format: Geographic data must be provided in a form that does not require translation, preprocessing, or post processing before being loaded to the Installation's regionally hosted geodatabase.
- The Contractor shall validate any deviation from this specification in writing with the Government (the Combat Center CRM).
- Digital geographic maps and the related data sets shall be delivered in the following software format:
 - GIS: File geodatabase format (Microsoft Access database file) using the current ArcGIS version or the ArcGIS shapefile format, as indicated by the Government (the Combat Center CRM).
 - GIS data submittals for cultural resources shall be in accordance with the approved MCAGGC Archeological GDB schema for feature classes and shapefiles.
 - The delivered data layer(s) shall be provided with x, y domain precision of 1000 (unless otherwise identified by the Installation).
 - All geospatial data shall have all Metadata completed to international Standards Organization (ISO) 19115:2003 Geospatial Information, per the GeoFidelis Data Management Guide Version 2.0.1 (or the most recent version).

Drawing files shall be full files, uncompressed, unzipped, and georeferenced.

Background: ArcGIS and ArcSDE are geographic information system software produced by the Environmental Systems Research Institute (ESRI) of Redlands, California. Use of this software is required by the Marine Corps GEOFidelis Program. The GEOFi program has developed a standardized GIS data model (GDM 4.0) that must be followed but that is pending approval. The contractor shall confirm geospatial data format with the government (the Combat Center CRM).

SOP # 11: CURATION

Contact: The Combat Center, Collections Manager (760) 830-1196 or CRM (760) 830-7641

Purpose: To provide guidance and procedures to manage the archeological and paleontological collections located at the Archeological and Paleontological Curation Center (APCC).

Application: This SOP applies to collections recovered from the MCAGCC and other USMC installations located in the region. MAGTFCTC's cultural resource responsibilities include providing for the curation of archeological collections and historical documents, as well as paleontological specimens recovered from Marine Corps property. These collections must be curated, not merely warehoused or stored. Curation means to provide long-term management, preservation, and accessibility of archeological and paleontological collections.

References:

- Curation of Federally-Owned and Administered Archeological Collections (36 CFR Part 79);
- The Antiquities Act of 1906
- The Reservoir Salvage Act of 1960
- Section 110 of the NHPA of 1966, as amended
- The Archeological Resources Protection Act (ARPA) of 1979
- The Native American Graves Protection and Repatriation Act (NAGPRA) of 1989
- Department of Defense Instruction 4715.16 (Cultural Resources Management, 9/18/08, Incorporating Change 2, Effective 8/31/18)
- OPNAV-M 5090.1 *Environmental Readiness Program Manual*, (9/3/19), Chapter 12 (Natural Resources Compliance and Management)
- OPNAV-M 5090.1 *Environmental Readiness Program Manual*, (9/3/19), Chapter 13 (Cultural Resources Compliance and Management)
- MCO 5090.2, Volume 8, Chapter 3 (Cultural Resources Management);
- National Park Service Museum Handbook, Parts I-III
- The APCC Standard of Operating Procedures

Procedures:

1. In-field analysis of artifacts will be the preferred method of analysis. Collection of artifacts, samples and paleontological samples will not be completed, unless authorized by the CRM;
2. All artifacts and paleontological samples will be analyzed using contemporary methods of analysis. Analysis may include destructive analysis;
3. All collections recovered from projects located on the MCAGCC will be curated at the APCC.
4. The APCC will maintain the standards of a curation facility as determined by 79 CFR 800, which includes daily maintenance, monitoring, climate control, pest management and security;
5. Collections received by contractors and in-house cultural resource projects will be accessioned and processed according to the APCC Collections Intake procedures within the APCC SOP;

6. All notes, photographs, electronic documents, and reports generated from projects will be archived and reproduced on archival-quality media;
7. The library will keep all reports, regional documents and studies on hand for reference and research;
8. All collections, archives, and library materials will be inventoried and managed through PastPerfect 5.0 collections management software;
9. Any NAGPRA-related human remains or objects will be inventoried and sequestered until the NAGPRA process and consultation effort is pursued;
10. The APCC will maintain this database for periodic or annual inspections of the collections;
11. The APCC will use some of its space for exhibits and education, open for the public or stakeholders, and available for specific educational purposes off-base.

Background: The curated collections will provide tangible and intangible resources for education, heritage awareness and scientific research that demonstrate the cultural history and prehistoric natural history on the Base. Curation protocols are based on Federal legislation and laws pertaining to cultural resources, DoD and USMC instructions and orders, regulations for the curation and care of federal collections under 36 CFR 79, and standards developed from the National Park Service Museum Handbook Volumes I-III, consultation with stakeholder groups, and professional museum audits and consultation.

All archeological collections and fossil specimens acquired from the Combat Center are curated at the APCC. The APCC was built in April 2006. The facility is a 2,500-square-foot building with a temperature and humidity control HVAC system and an office, collections room, wet lab/ collections prep room, and exhibit room. The building meets the requirements for compliance with 36 CFR 79, increasing the availability of collections to researchers, and providing public outreach and education opportunities. In September 2013, a new curation annex was completed that provides an additional 2,500 square feet, and is dedicated to housing and caring for additional collections. The Annex will be upgraded with HVAC and fire suppression to meet the regulatory needs to 36 CFR 79 to house these additional collections.

The APCC currently house more than 450,000 artifacts and fossil specimens from over 500 archeological and paleontological sites or localities, along with associated photographs, maps, reports, field notes, and digital files, all tracked and inventoried in a comprehensive database. The APCC is the repository for collections and archival materials from other regional USMC installations: Marine Corps Mountain Warfare Training Center, Bridgeport, California (MCMWTC), the Marine Corps Air Station, Yuma (MCAS Yuma), and Marine Corps Logistics Base, Barstow (MCLB Barstow). These collections are maintained and curated under MOAs with the MCAGCC and the other respective USMC installations.

The APCC grounds includes a Cultural Heritage Garden, an ethnobotanical garden designed to educate the public about traditional Native American plant uses, and a Butterfly and Hummingbird Nectar Garden, a water-wise garden designed to support pollinator species endemic to the Mojave Desert.

Annual Compliance:

Inspection of federal archaeological is conducted periodically by a qualified representative selected by the Collections Manager, in accordance with the Federal Property and Administrative Services Act (40 U.S.C. 484 and 41 CFR 101). Inspections of collections from other installations can be completed at the request of that installation's CRM or Federal Land Manager. Consistent with 36 CFR 79.11(a), the Collections Manager or representative should:

- Maintain an inventory of curated Federally-owned archaeological materials and records;
- Periodically inspect the physical environment in which all archaeological materials are stored for physical security and environmental control measures;
- Periodically inspect the collections to assess the condition of the material remains and associated records and monitor for possible deterioration and damage;
- Periodically inventory the collections by accession, lot, or catalog record to verify the location of the material remains and associated records;
- Periodically inventory any other Federally -owned material remains and records in the possession of the APCC; and
- Generate an annual status report detailing the results of the inspections and inventory including: new inventory, loans, missing inventory and NAGPRA-related inventory.

SOP # 11. IDENTIFYING AND EVALUATING PROPERTIES

Contact: The Combat Center, Collections Manager (760) 830-1196 or CRM (760) 830-7641

Purpose: To provide guidance and procedures for in field surveys, inventory, site recording, and site evaluation.

Application: These SOP procedures are applicable to all survey and/or evaluation work plans conducted under a Section 106/NEPA Review—or general Section 110 project as appropriate and will be applicable throughout the term of the PA. Work plans will describe the scope or work (including the boundaries of the survey area, acreage or number of buildings and structures to be inventoried), the methods to be used, and the expected output (or deliverables). All work will be conducted by or under the supervision of a professional who meets the minimum standards as identified in the Professional Qualifications as appropriate for the historic property being addressed and must be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716).

Procedures:

Survey Transect Intervals

- The survey area shall be surveyed in parallel transect intervals of 15 meters or less.
- If parallel transect intervals of 15 meters or less is not practical due to topography or vegetation the field supervisor shall use their professional judgement to determine appropriate survey transect intervals.

Recording Methods

Features

- All features are recorded during survey
- Geospatial data to be gathered for all features include a center point or feature polygon coordinates recorded in UTM WGS84 with a GPS unit.
- Data gathered when recording a feature shall include the type and quantity of materials, the size and shape of the feature, any construction details, probable function, and any relationship to nearby cultural materials.
- Digital photos are taken of each feature.
- If the feature is tested for subsurface depth/content of materials, then a plan and/or profile views are drawn.

Artifacts

- All artifacts shall be recorded.
- Data collected shall include type of artifact, size, shape, color, material type (lithic type, ceramic type, and glass type), count, and maker's mark or other identifiable markings or stamps, as appropriate.
- During survey, artifacts shall be left in situ and not collected, to the extent practical. Artifact analysis should be conducted in the field. If the crew chief or P.I. cannot complete the analysis of artifacts in the field then he or she must contact the CRM to request an exception to MAGTFTC's "no collection" policy prior to collecting any artifacts.
- If a unique or temporally diagnostic artifact is in eminent danger of being destroyed due to its proximity to a road, wash, or high-risk activity, the artifact may be collected. The CRM shall be notified of the collection within 72 hours.

Site Condition and Environmental Setting

- Data collected shall include the relative condition of the site as a whole, any existing alterations and/or disturbances of the site and its setting, a qualitative condition assessment (i.e., "good", "fair" or "poor"), and a percentage of the site disturbance, if any.
- Data collected for environmental setting shall include the present vegetation zone, plants, animals, soils, geology, landforms, slope, aspect, exposure, and other environmental characteristics.

Archaeological Sites

Minimum thresholds for defining a site:

- Ten or more artifacts of any class or type (except for fire-cracked rock) within a 15 square meter area (except when all pieces appear to originate from a single source, such as a ceramic pot drop, a broken glass bottle, deteriorated sheet of metal, etc.). An exception might be made for a single knapping area which could be considered an activity area, and thus a site; or

- One or more datable features (chronometric dating) with or without associated artifacts within a 15-meter radius of the feature; or
- Two or more undateable features within 30 meters of one another; or
- One or more undateable features with any associated artifacts.
- In general, cultural materials greater than 30 meters apart shall not be considered part of the same site unless the field direct can support that the materials are part of a larger site. Field supervisors shall assign site status to other situations outside these criteria in accordance with their professional judgment and provided a reasonable justification is provided.

Site recordation

- Archaeological sites may be historic or include historic components. A historic component is identified when the feature and/or artifacts can be shown to be 50 years of age or older, but not extending into prehistory.
- At a minimum, a DPR 523 Primary Site Record, Archaeological Site Record, and a Photograph Record shall be completed for each newly recorded site.
- Other Records such as an Artifact Record, BSO Record, Linear Record, District Record, Milling Station Record or Rock Art Record may be required to record a site.
- For previously recorded sites, a Continuation Record may be used to update the original DPR 523 forms. If the site was last recorded prior to the use of the standard DPR 523 site forms (1995), a new DPR 523 Primary Record, Archaeological Record, and Photographic Record shall be completed for that site.
- A location map shall be created for each DPR 523 site form completed. The location map shall adhere to the guidelines provided by the California Office of Historic Preservation in their Instructions for Recording Historical Resources (March 1995).
- For each DPR 523 form completed, a sketch map shall be created. The sketch map shall at minimum depict the site boundary, the datum location, locations of any features, locations of any diagnostic artifacts, locations of any test units, and locations of any collections.
- Required forms shall be completed by an individual meeting the Professional Standards.

Isolated Occurrences

- All IOs will be recorded and their coordinates recorded in UTM WGS84 with a GPS unit.
- Data to be gathered when recording an IO include: the type and quantity of materials, the size and shape of the feature, any construction details, probable function, and any relationship to nearby cultural materials.
- An IO may be collected from the surface if it is a temporally diagnostic prehistoric artifact; or a unique or unusual historic or prehistoric artifact that is in eminent danger due to its proximity to a road, wash, or other activity such a looting, the artifact may be collected.

Conducting Geomorphic Studies

- Each formal site evaluation shall assess the potential for subsurface deposits and the integrity of those deposits at each site through subsurface testing, although natural cuts into the landscape (road cuts, arroyos, and rills) and other previously collected geomorphic/geological data may be used.

- Testing shall include trowel tests, auger tests, shovel tests, test units, or backhoe trenches; testing shall be proportional to the size of the site, but otherwise have a minimal impact.
- Each formal evaluation shall record the soil profile and any other distinguishing characteristics (such as pieces of charcoal or buried artifacts) to identify post-depositional activities that have affected the site (wind or water erosion, man-made impacts, and bioturbation), to estimate the extent of those activities, and to finally arrive at an estimate of the percentage of the site remaining intact.
- When appropriate for a given project, a geomorphologist shall conduct geomorphological studies.

Assessing Chronological and Chronometric Potential

- When recording a site, each investigation shall assess the potential for chronological and/or chronometric dating.
- Chronological or relative dating potential includes the presence of diagnostic ceramics or stone tool types or features; chronometric dating potential includes the presence of charcoal pieces or carbon-stained soil for Accelerator Mass Spectrometry (ASM) dating techniques.
- The potential for other types of chronometric dating methods such as dendrochronological (tree ring) or thermoluminescence (time elapsed since last firing) can also be used.

Appendix 2.
Five-year Work Plan

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Appendix 2

1.3.1	Review changes to the Range, Training Area, and Airspace SOPs to ensure, conservation of cultural resources and compliance with regulations	N/A	each time the RTAA is updated	DODI					
1.3.2	Ensure Restricted Areas protecting key cultural resources are maintained			PA, NHPA, ARPA, NAGPRA					
1.3.2	Provide awareness training to personnel using the training areas			DODI					

Objective 1.4 Provide adequate staff to the cultural resources program

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/ Driver	FY21	FY22	FY23	FY24	FY25
1.4.1	Ensure staffing levels are adequate to implement the ICRMP and any regulatory documents			NHPA, ARPA, NAGPRA					
1.4.2	Maintain appointment of a CRM responsible for implementing the ICRMP and any regulatory documents	N/A	ongoing	NHPA, ARPA, NAGPRA					
1.4.3	Ensure annual Individual Development Plans are developed for each member of the cultural resources staff that	N/A	annualy						
1.4.4	Support, as funding allows, implementation of individual IDPs	CR Training and Education	annually	DODI	X	X	X	X	X

Goal 2. Respect and Support Tribes' Relationship to Resources

Objective 2.1 Incorporate points of view from Tribes into resource management

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Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/ Driver	FY21	FY22	FY23	FY24	FY25
2.1.1	Provide at least semi-annual coordination meetings on cultural resources program implementation	N/A	twice a yr	NHPA, APRA, NAGPRA	X	X	X	X	X
2.1.2	Include Tribes as stakeholders in development of the Integrated natural Resources Management Plan (INRMP)	N/A	1 yr	NHPA, APRA, NAGPRA			X		
2.1.3	Update the Cpmbat Center's ethnogrphic context in partnering with Tribes	N/A	2 yrs	NHPA, APRA, NAGPRA	X	X			
2.1.4	Develop acquistion methods for acquiring tribal monitoring	Stabilize Eligible Historic, NAGPRA Repatriation, 5% Cultural Site Evaluation	ongoing	NHPA, APRA, NAGPRA	X				
2.1.5	Provide draft cultural resources studies and reports to Tribes for their review and input	N/A	annually	NHPA, APRA, NAGPRA	X	X	X	X	X

Objective 2.2 Support continued tribal connection with landscape

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/ Driver	FY21	FY22	FY23	FY24	FY25
2.2.1	Develop agreements allowing for Tribes to collect plant materials from the Combat Center for traditional use	N/A	1 yr	NHPA, APRA, NAGPRA	X				
2.2.2	Research legal requirements for providing parts of protected animal carcasses to Tribes for traditional use	N/A	2 yrs	NHPA, APRA, NAGPRA	X	X			

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2.2.3	Coordinate with Tribes for ceremonial access to the Combat Center lands, if requested	N/A	1 yr	NHPA, APRA, NAGPRA		X				
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Objective 2.3 Continue supporting sovereignty of Tribes

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/Driver	FY21	FY22	FY23	FY24	FY25
2.3.1	Conduct government-to-government consultation with the Tribes as appropriate	N/A	ongoing	NHPA, EO, Pres. Memo	X	X	X	X	X
2.3.2	Provide support for cultural resources training and associated travel by Tribal representatives, subject to Federal law								
2.3.3	Establish in-house archaeological training and experience opportunities for Tribes, subject to Federal law								

Objective 2.4 Partner with Tribes and other organizations on cultural resources conservation

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/Driver	FY21	FY22	FY23	FY24	FY25
2.4.1	Contact the Native American Land Conservancy and the Cultural Conservancy to solicit interest regarding partnership under DoD's Readiness and Environmental Protection Integration program (REPI).	N/A		NHPA, APRA, NAGPRA	X				

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2.4.2	Partner with tribes to develop an ethnobotanical garden, document related traditional practices, and develop an associated interpretive program at the Combat Center	Ethnobotanical Study		NHPA, APRA, NAGPRA	X				

Goal 3. Maintain Robust Compliance with Regulatory Requirements

Objective 3.1 Identify cultural resources aboard the installation

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/Driver	FY21	FY22	FY23	FY24	FY25
3.1.1	Make regular progress toward systematic survey of 100% of the Combat Center	5% Cultural Site Inventory	ongoing	NHPA, ARPA	X	X	X	X	X
3.1.2	Ethnographic inventory of TCPs, Sacred Sites, and other areas of significance	Ethnobotanical study	1 yr	NHPA, ARPA			X		

Objective 3.2 Evaluate cultural resources aboard the installation

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/Driver	FY21	FY22	FY23	FY24	FY25
3.2.1	Consult on the backlog of evaluation reports								
3.2.2	Make regular progress toward evaluation of 100% of sites for NRHP eligibility	Abandoned Mineral Lands Assessment Project	ongoing	NHPA		X			
	Make regular progress toward evaluation of 100% of sites for NRHP eligibility	5% Cultural Site Evaluation, Prehistoric Trails Project	ongoing	NHPA	X	X	X	X	X

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3.2.3	Evaluate appropriate areas as historic districts eligible for NRHP listing	5% Cultural Site Evaluaton	ongoing	NHPA	X	X	X	X	X

Objective 3.3 Ensure complete and meaningful consultation with SHPO and the Tribes

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/ Driver	FY21	FY22	FY23	FY24	FY25
3.3.1	Review potential undertakings through requests for environmental impact	N/A	ongoing	Sec 106 NHPA					
3.3.2	Conduct Sec 106 consultation with SHPO and Tribes, as appropriate	N/A	ongoing	Sec 106 NHPA					
3.3.3	Implement procedures that allow better consideration of Tribal concerns by SHPO	N/A	ongoing	Sec 106 NHPA					
3.3.4	Support CLEO investigations of unauthorized impacts to historic properties	Conservation Law Enforcement Program	ongoing	Sec 106 NHPA	X	X	X	X	X
3.3.5	Report unauthorized impacts to SHPO and Tribes, and ACHP if required by law	Conservation Law Enforcement Program	ongoing	Sec 106 NHPA	X	X	X	X	X
3.3.6	Maintain cultural resources compliance records	N/A	ongoing	NHPA, ARPA					

Objective 3.4 Curate Combat Center collections per 36 CFR 79

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/ Driver	FY21	FY22	FY23	FY24	FY25
3.4.1	Conduct annual inspections of the Curation Center facility and practices	CR Conservation and Consultation Support	ongoing	NHPA	X	X	X	X	X
3.4.2	Conduct annual inventory of a sample of the collections	CR Conservation and Consultation Support	ongoing	NHPA	X	X	X	X	X

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3.4.3	Conduct 100% inventory of the collections every 10 years	Paleontological inventory and curation assessment	6 months	NHPA, APRA	X				
3.4.4	Renovate the Curation Center Annex to meet Federal curation standards	Curation Warehouse Environmental Compliance Update	3 yrs	NHPA	X				
3.4.5	Transition curation records to Past Perfect 5.0	CR Conservation and Consultation Support	ongoing	NHPA	X	X	X	X	X
3.4.6	Conduct a feasibility study for curating joint, regional DoD collections	CR Conservation and Consultation Support	ongoing	NHPA	X	X	X	X	X

Objective 3.5. Ensure compliance with NAGPRA

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/Driver	FY21	FY22	FY23	FY24	FY25
3.5.1	Re-examine past reports to determine whether additional sites aboard the Combat Center may be subject to NAGPRA	N/A	2 yrs	NAGPRA					
3.5.2	Re-examine collection records to determine whether any collections may be subject to NAGPRA	N/A	2 yrs	NAGPRA					
3.5.3	Consult with Tribes on the NAGPRA review of reports and curation records review	N/A	1 yr	NAGPRA			X		
3.5.4	Develop a NAGPRA Action Plan in consultation with Tribes	N/A	1 year	NAGPRA					
3.5.5	Develop a NAGPRA Comprehensive Agreement with Tribes	N/A	1 year	X					
3.5.6	Conduct NAGPRA consultation with Tribes, as necessary	NAGPRA Repatriation	when requ	NAGPRA	X				

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Goal 4. Ensure Responsible Stewardship of Cultural Resources aboard MCAGCC

Objective 4.1 Monitor and control cultural resource degradation

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/ Driver	FY21	FY22	FY23	FY24	FY25
4.1.1	Install engineering controls (e.g., signs, fencing) to reduce unauthorized entry into Restricted Areas	OHV Barriers and Unauthorized Route Rehabilitation, Stabilize Eligible Historic Properties	ongoing	NHPA, PA, ARPA, NAGPRA	X	X	X	X	X
4.1.2	Continue CLEO patrols of Restricted Areas and other resources	Conservation Law Enforcement Program	ongoing	NHPA, ARPA	X	X	X	X	X
4.1.3	Facilitate CLEO enforcement duties by providing field-capable geospatial and archaeological data	Conservation Law Enforcement Program	ongoing	NHPA, ARPA	X	X	X	X	X
4.1.4	Assess the condition of all historic properties at least every five years	20% Cultural Site Condition Assessment	annually	NHPA, ARPA	X	X	X	X	X

Objective 4.2 Manage cultural data for effective resource management

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/ Driver	FY21	FY22	FY23	FY24	FY25
4.2.1	Collect cultural resources spatial data into the Combat Center GIS	N/A	quarterly	NHPA, ARPA, NAGPRA					
4.2.2	Verify the accuracy and completeness of cultural resources data	N/A	quarterly	NHPA, ARPA, NAGPRA					
4.2.3	Ensure appropriate data is entered into the Marine Corps' enterprise GIS	N/A	quarterly	NHPA, ARPA, NAGPRA					

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4.2.4	Develop data protection procedures to minimize leakage	N/A	6 months	NHPA, ARPA, NAGPRA	X				
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Objective 4.3 Provide special focus on conserving rock art

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/Driver	FY21	FY22	FY23	FY24	FY25
4.3.1	Prepare a Rock Art Preservation and Management Plan	Re-Inventory, Evaluate, Nominate, and Manage Rock Art Sites	2 yrs	NHPA, APRA	X				
4.3.2	Record (or re-record) rock art sites using modern applications and techniques	Digital Recording of Rock Art Sites	ongoing	NHPA, ARPA				X	X
4.3.2	Develop a cultural context for rock art aboard the Combat Center	Re-Inventory, Evaluate, Nominate, and Manage Rock Art Sites	1 yr	NHPA, ARPA	X				

Objective 4.4 Nominate historic properties to the NRHP

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/Driver	FY21	FY22	FY23	FY24	FY25
4.4.1	Develop a nomination plan identifying priorities and timelines for nomination	NRHP Nomination	1 yr	NHPA	X				
4.4.2	Prepare and submit a nomination package for the Emerson Lake area	NRHP Nomination	2 yrs	NHPA	X	X			
4.4.3	Prepare and submit a nomination package for the Surprise Springs area	NRHP Nomination	2 yrs	NHPA			X	X	

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4.4.4	Prepare and submit a nomination package for the Deadman Lake area	NRHP Nomination	2 yrs	NHPA				X	X

Objective 4.5 Improve community understanding and appreciation of cultural resources

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/Driver	FY21	FY22	FY23	FY24	FY25
4.5.1	Develop a community outreach plan	CR Outreach	ongoing		X	X	X	X	X
4.5.2	Develop online interpretive materials (e.g., online artifact display and	CR Outreach	2 yrs	NHPA		X	X		
4.5.3	Update the cultural resources awareness training provided to	CR Outreach	6 months	NHPA, ARPA	X				

Objective 4.6 Improve community understanding and appreciation of cultural resources

Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/Driver	FY21	FY22	FY23	FY24	FY25
4.6.1	Develop and consult upon standard treatment measures for more efficient mitigation at sites with degrading integrity	Stabilize Eligible Historic Properties	ongoing	[NHPA, ARPA, NAGPRA]		X	X	X	X
4.6.2	Stabilize natural erosion at site CA-SBR-14541/H	Stabilize Eligible Historic Properties	1 yr	[NHPA, ARPA,	X				
4.6.3	Close unnecessary roads transiting through Restricted Areas	OHV Barriers and Unauthorized Route Rehabilitation, Stabilize Eligible Historic Properties	as required	[NHPA, ARPA, NAGPRA]	X	X			

Objective 4.7 Broaden knowledge of this regions' past through cultural resources, geomorhpic & ethnographics

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Task No.	Task Description in ICRMP	Project Title in Encore	Timeframe	Regulation/ Driver	FY21	FY22	FY23	FY24	FY25
4.7.1	Develop and prepare a Clovis Era Site Study	same	1yr	NHPA		X			
4.7.2	Develop and prepare a Clovis s geomorphic study of desert pavements aboard the Combat Center	same	1yr	NHPA	X				
4.7.3	Develop and prepare on organic residue analysis of ceramics in the Combat Center's collections	same	1yr	NHPA			X		
4.7.4	Develop and prepare a prehistoric trails study	same	1yr	NHPA					X
4.7.5	Develop a obsidian hydration and source study	same	1yr	NHPA			X		

Appendix 3. Annual Updates

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Appendix 4.

Glossary

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Appendix 4

GLOSSARY

Advisory Council on Historic Preservation (ACHP): The independent federal agency charged by the NHPA (Section 201), as amended, to advise the President, Congress, and federal agencies on matters related to historic preservation. The ACHP also administers Section 106 of the NHPA through its regulation at 36 CFR Part 800, *Protection of Historic Properties*.

Alluvial: Pertaining to processes or materials associated with transportation or deposition by running water.

Alluvial fan: A major semiconical or fan-shaped constructional landform that is built of more or less stratified alluvium, with or without debris flow deposits, that occurs on the upper margin of a piedmont slope and that has its apex at a point source of alluvium debouching from a mountain valley into an intermontane basin. Also, a generic term for similar forms in various other landscapes.

Alluvium: Deposits of organic and inorganic material made by streams on riverbeds, floodplains, and alluvial fans, particularly deposits of clay or silty clay laid down during a time of flood.

Archaeological resources: Any material remains of past human life or activities that are capable of providing scientific or humanistic understandings of past human behavior and cultural adaptation through the application of scientific or scholarly techniques such as controlled observation, contextual measurement, controlled collection, analysis, interpretation, and explanation (see the ARPA and 32 CFR §229.3).

Archaeological Resources Protection Act (ARPA) of 1979: This act (16 U.S. Code [U.S.C.] 470) strengthened protection of archaeological resources on federal and tribal lands by increasing the penalties first included in the Antiquities Act of 1906 for unauthorized excavation, collection, or damage of those resources from misdemeanors to felonies, including fines and imprisonment for first offenses. Trafficking in archaeological resources from public and tribal lands is also prohibited by ARPA. ARPA requires notification of affected Native American tribes if archaeological investigations would result in harm to or destruction of any location considered by tribes to have religious or cultural importance.

Archaeology: The study of the human past, primarily using material remains (artifacts, sites and monuments).

Archaic: In the San Diego area, a prehistoric period dating from approximately 8500-7500 to 1000 B.P.

Area of Potential Effect (APE): The area within which any existing historic properties may be affected by a federal undertaking. The APE includes the footprint of the proposed project and areas around the footprint that might be affected by visual, auditory, erosional, and other direct and indirect results of the undertaking. The APE may consist of a single area or two or more geographically discontinuous areas.

Bedrock: The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Biface: A stone tool with a knife-like edge, created by micro-flaking along both sides of the tool edge. Bifaces commonly include stone knives, drills and spear and arrow points.

Blade: A stone flake that is twice as long as it is wide. The manufacture and use of blades is characteristic of some but not all prehistoric cultures.

Bioturbation: Soil disturbance due to biological agents, such as gophers and ground squirrels. Both can cause substantial destruction to archaeological deposits.

Boulder: A rock fragment larger than 2 ft. (60 cm) in diameter.

Building: One of the five NRHP property types. A structure created to shelter any form of human activity—includes houses, barns, churches, and other buildings, including administration buildings, dormitories, garages, and hangars.

Chronometric techniques: Scientific analyses used to determine the age of specific kinds of material. The most widely used chronometric technique in archaeology is radiocarbon (¹⁴C) dating, which can provide estimated ages for carbon and other organic materials.

Clovis: An early prehistoric cultural period, dating from about 12,000 B.P. to 10,000 B.P., that is widely present across North America.

Cobble: A rounded or partly rounded fragment of rock 3–10 in. (7.6–25 cm) in diameter.

Cobble tool: Stone tool made from a natural cobble. Cobble tools are typically large (roughly fist-sized) and were used for heavy pounding, chipping and scraping tasks. Commonly cobble tools include hammerstones, choppers and scaper planes.

Cold War historic resources: Buildings, structures, sites, objects, and districts built, used, or associated with critical events or persons during the “Cold War” period (1945–1989) that possess exceptional historic importance to the nation or that are outstanding examples of technological or scientific achievement (see DoDI 4715.3).

Colluvium: Soil material or rock fragments, or both, moved by creep, slide, or local wash, and deposited at the base of steep slopes.

Conglomerate: A coarse-grained clastic rock composed of rounded or subangular rock fragments more than 2 mm in diameter. It commonly has a matrix of sand and finer-textured material. Conglomerate is the consolidated equivalent of rounded or subrounded gravel.

Conservation: Planned management, use, and protection of natural and cultural resources to provide sustainable use and continued benefit for present and future generations and to prevent the exploitation, destruction, waste, and/or neglect (DoDI 4715.3).

Consultation: A reasonable and good-faith effort to involve affected parties in the findings, determinations, and decisions made during the Section 106 process and other processes required under other statutes and regulations. Consultations with Indian tribes must be on a government-to-government level to respect tribal sovereignty and to recognize the unique legal relationship between the federal government and Indian tribes set forth in the Constitution, treaties, statutes, and court decisions.

Core: A naturally occurring stone that has been hammered to detach flakes, which were subsequently used to make flake tools such as knives and spear or arrow points.

Cottonwood Triangular point: A stone arrow point that dates after about 800 B.P. In the San Diego area, the appearance of this arrow point (along with Desert Side-Notched points) marks the introduction of the bow and arrow into the region.

Cultural landscape: A geographical area that historically has been used by people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, sites, and/or natural features.

Cultural resource: Cultural resources represent the nation's collective heritage, and broad public sentiment for protecting these heritage resources has been codified over the years in numerous federal, state, and local laws (King 1998; King et al. 1977). This term includes: (1) buildings, structures, sites, districts, and objects that may be eligible for or that are included in the NRHP (historic properties); cultural items as defined in 25 USC 3001; American Indian, Eskimo, Aleut, or Native Hawaiian sacred sites for which access is protected under 42 USC 1996; archaeological resources as defined by 16 USC 470bb; archaeological artifact collections and associated records defined under 36 CFR 79 (see DoDI 4715.3); and any definite location of past human activity, occupation, or use, identifiable through field inventory (survey), historical documentation, or oral evidence.

Culture: The traditions, beliefs, practices, lifeways, arts, crafts, and social institutions of any community, be it an Indian tribe, a local ethnic group, or the people of the nation as a whole. Humans' use of and adaptation to the environment as seen through his behavior, activities, and the methods employed to transmit customs, knowledge, and ideas to succeeding generations.

Curation: The process of managing and preserving an archaeological collection of artifacts and records according to professional museum and archival practices, as defined in 36 CFR 79. For details, see Legacy Resource Management Program Office, Legacy Project No. 98-1714, Guidelines for the Field Collection of Archaeological Materials and Standard Operating Procedures for Curating Department of Defense Archaeological Collections.

Debitage: Flakes and shattered angular bits of stone that are the by-product and waste materials resulting from stone tool manufacture. Debitage is typically the most common kind of archaeological remains found at prehistoric sites. Debitage can provide useful information about stone tool manufacturing processes.

Desert Side-Notched point: A stone arrow point that dates after about 800 B.P. In the San Diego area, the appearance of this arrow point (along with Cottonwood Triangular points) marks the introduction of the bow and arrow into the region.

Digging weight: A donut-shaped stone placed at the distal end of a fire-hardened stave or pole used for digging in the ground. Digging sticks were useful for obtaining certain plant foods, such as tubers.

District: One of the five NRHP property types. Districts are concentrations of significant sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

DoDI 4715.3, *Environmental Conservation Program (3 May 1996)*: This instruction covers a wide range of topics pertinent to the integrated management of natural and cultural resources on properties under DoD control and describes means and assigns responsibilities for implementing policies, and prescribes appropriate procedures. It also directs DoD installations to take a proactive approach to consultation with Native American tribes, both in the Section 106 process and with respect to tribal cultural concerns in general. Among other things, it also directs installations to select a staff member to serve as a liaison to tribes and to educate appropriate staff about tribes with cultural ties to lands managed by DoD.

Effect: Any change in the characteristics that contribute to the uses determined appropriate for a cultural resource, or to the qualities that qualify a cultural property for the NRHP. Determination of effect is guided by criteria in 36 CFR Part 800.9.

Ethnography: The branch of anthropology that describes and analyzes extant cultural systems.

Ethnohistory: Ethnographic information that can be obtained from historical documents; for example, diaries of early explorers and early newspaper accounts.

Ethnology: The branch of anthropology that deals with the comparative cultures of various peoples, including their distributions, characteristics, folkways, religions, and social organizations.

Evaluation: Assessing the historic significance and historic integrity of a site, building, structure, district, or object by applying the criteria of eligibility for inclusion in the NRHP.

Flake: A typically small, lenticular-shaped stone, created by striking a core with a hammerstone or antler baton. Flakes were sometimes subsequently further worked (e.g., to create arrow points), or could be used without further modification (e.g., as expedient cutting or scraping edges), or might simply be the waste by-product of stone tool manufacture ("debitage").

Hammerstone: Typically, a fist-sized cobble used for hammering and pounding tasks.

Historic archaeology: Investigation of historical-period sites through archaeological techniques; study of the material culture of people living during recorded history in order to understand cultural history and human behavior.

Historic context: An organizing structure for interpreting history that groups together information about historic properties sharing a common theme, geographical location, and time period. The development of historic contexts is a foundation for decisions about the planning, identification, evaluation, registration, and treatment of historic properties based upon comparative significance.

Historic integrity: The ability of a property to convey its historic significance. To be eligible for the NRHP, a property must be historically significant. It also must possess historical integrity, which is a measure of authenticity and not necessarily condition. Elements of integrity to be considered include location, design, setting, materials, workmanship, feeling, and association. Not all seven aspects of integrity need to be retained, but a property must have sufficient physical remnants from its period of historical importance to illustrate significant aspects of its past. The integrity of archaeological sites typically is evaluated by the degree to which they can provide important contextual information. The integrity of traditional cultural places is interpreted with reference to the views of closely affiliated traditional groups, if traditional people will write or talk about such places so information can be filed with a public agency. If a place retains integrity in the perspective of affiliated traditional groups, it probably has sufficient integrity to justify further evaluation. NRHP Bulletin 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, provides guidance for identifying and assessing traditional cultural places.

Historic preservation: 16 U.S.C. 470w, Section 301(8), states that historic preservation "includes identification, evaluation, recordation, documentation, curation, acquisition, protection, management, rehabilitation, restoration, stabilization, maintenance, research, interpretation, conservation, and education and training" regarding cultural resources.

Historic property: Any district, site, building, structure, or object listed in or eligible for inclusion in the NRHP because of its historic significance. The regulation at 36 CFR 60.4 explains criteria for determining eligibility for listing in the NRHP.

Historic significance: The importance of a property to the history, architecture, archaeology, engineering, or culture of a community, a state, or the nation. It is achieved by meeting one or more of the following criteria: association with events, activities, or patterns (Criterion a); association with important persons (Criterion b); distinctive physical characteristics of design, construction, or form (Criterion c); potential to yield important information (Criterion d).

Historic theme: A trend or pattern in history or prehistory relating to a particular aspect of cultural development.

Holocene: The second epoch of the Quaternary period of geologic time, extending from the end of the Pleistocene (about 10,000–12,000 years ago) to the present.

Identification: The first step in the NHPA Section 106 process includes preliminary work (such as archival research or literature review), actual efforts to identify properties through field survey, and the evaluation of identified properties to determine if they qualify as historic properties. The standard is a “reasonable and good faith effort” for identification and evaluation.

Indian tribe: The term Indian tribe includes federally recognized American Indian tribes, Alaska Native villages, and Native Hawaiian organizations. A federally recognized tribe is one that the U.S. government formally recognizes as a sovereign entity requiring government-to-government relations. The federal government holds lands in trust for many, but not all, Indian tribes. Some tribes are not federally recognized and are not afforded special rights under federal law, with the following exception. According to NRHP guidelines, traditional cultural places include places of cultural significance to both federally recognized tribes and other groups. Non-federally recognized tribes may be consulted as interested parties.

Integrated Cultural Resources Management Plan (ICRMP): A document that defines the procedures and outlines plans for managing cultural resources on DoD installations (see DoDI 4715.3).

Integrated Natural Resources Management Plan (INRMP): An integrated plan based, to the maximum extent practicable, on ecosystem management that shows the interrelationships of individual components of natural resources management to mission requirements and other land-use activities affecting an installation’s natural resources (see DoDI 4715.3).

Intensive archaeological survey: A pedestrian survey that is designed to locate and record all archaeological resources within a specified area from surface and exposed profile indications. Crewmember spacing of 20 m or less is considered appropriate for surveys.

Inventory: A process of descriptive listing and documentation of cultural resources within a defined geographic area based on a review of existing data, fieldwork, and other means. Also referred to as archaeological survey.

Isolate: An artifact found in isolation; that is, unaccompanied by additional archaeological remains.

Landform: A three-dimensional part of the land surface, formed of soil, sediment, or rock that is distinctive because of its shape, its significance for land use or to landscape genesis, its repetition in various landscapes, and its fairly consistent position relative to surrounding landforms.

Late Prehistoric: The local prehistoric cultural period dating from about 1000 to 300 B.P.

Lithic technology: Stone tool making and using process tradition.

Lithic scatter: An archaeological site with material remains restricted to stone tools and debitage which only occur on the ground surface; i.e., lithic scatters, lack a buried or subsurface soil deposit and remains.

Mano: A handstone or muller, employed for grinding vegetal materials, especially seeds. Used with a metate.

Metate: A basal grinding slab, used with a mano or handstone.

Midden: An archaeological soil deposit containing an admixture of ash and charcoal, originally from cooking fires. Midden deposits are characteristic of villages and camps.

Milling stones: Stone tools used for grinding or pulping vegetal materials.

Mission Indians: Southern California Native Americans who were historically subjugated by the Spanish under the mission system. "Mission Indian" is sometimes used generically for a number of distinct tribes. Federally-recognized Mission Indian tribes can also represent groups consisting of tribally-mixed individuals, reflecting the forced congregation, and subsequent inter-marriages, of different tribes under the mission system.

National Register of Historic Places (NRHP): The official federal list of sites, districts, buildings, structures, and objects worthy of preservation consideration because of significance in American history, architecture, archaeology, engineering, or culture. The NRHP is administered by the Department of the Interior, National Park Service. Criteria for eligibility,

and the procedures for nomination, making changes to listed properties, and removing properties from the NRHP are detailed in 36 CFR 60, *National Register of Historic Places*. Significance may be local, state, or national in scope. NRHP eligibility criteria are published in 36 CFR 60.

Native Americans: American Indians, Eskimos, Aleuts, and Native Hawaiians (DoDI 4715.3).

Object: One of the five NRHP property types. Objects typically are small in scale, sometimes movable, and often artistic in nature, and include sculpture, monuments, airplanes, boundary markers, and fountains.

Outcrop: That part of a geologic formation or structure that appears at the surface of the earth.

Paleoindian: An early prehistoric cultural period dating locally from about 10,000 to 8500–7500 B.P.

Paleolithic: The prehistoric cultural period present in Eurasia and dating from about 35,000–10,000 B.P. Siberian Paleolithic cultures are believed to be ancestral to Pre-Clovis cultures in the Americas.

Paleontology: The study of the biological past, typically as expressed in fossils.

Paleosol: A soil that formed on a landscape of the past, with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was either altered because of external environmental change or interrupted by burial.

Pauma: Inland Archaic sites, dating from approximately 8500–7500 to 1000 B.P.

Pleistocene: The first epoch of the Quaternary period of geologic time (about 2 million–10,000 years ago), following the Pliocene epoch and preceding the Holocene.

Pre-Clovis: An early but poorly understood cultural period in North America, dating to >12,000 B.P. Pre-Clovis sites are believed to represent the first colonization of the Americas although when this first occurred is still the subject of research and debate.

Prehistory: That period of time before written history. In North America, prehistoric usually refers to the period before European contact.

Projectile point: A generic term that includes both stone arrow and spear points.

Protohistory: The study of historical-period groups who themselves did not maintain written records. The protohistoric period is usually defined as between A.D. 1492 and A.D. 1700.

Quaternary: The second period of the Cenozoic era of geologic time, extending from the end of the Tertiary period (about 2 million years ago) to the present and consists of two epochs, the Pleistocene (Ice Age) and the Holocene (recent).

Remnant: A remaining part of some larger landform or of a land surface that has been dissected or partially buried.

Ridge: A long, narrow elevation of the land surface, typically sharp crested with steep sides and forming an extended upland between valleys.

Riparian habitat or area: A zone of transition from the aquatic to terrestrial ecosystems, whose presence is dependent upon surface and/or subsurface water, which reveals the influence of that water through its existing or potential soil/vegetation complex. Riparian habitat may be associated with features such as lakes, reservoirs, estuaries, potholes, springs, bogs, wet meadows, muskegs, and ephemeral, intermittent, or perennial streams. Riparian areas are often characterized by dense vegetation and an abundance and diversity of wildlife.

Sandstone: Sedimentary rock predominantly containing sand-sized particles.

Scraper: A common stone tool with a unifacially worked edge (similar to a chisel edge), used for scraping tasks.

Scraper plane: A cobble tool commonly used to pulp dense vegetal material such as agave leaves (used to make fibers for string).

Shovel test-pit (STP): A quickly excavated small pit used to determine whether a subsurface deposit is present at a site and, if so, the density of the subsurface archaeological remains. STPs are commonly 25 x 25 cm or 30 cm in diameter in size.

Site: One of the five NRHP property types. The physical location of a significant activity or event; often refers to archaeological sites or traditional cultural places, although the term also may be used to describe military properties such as testing ranges, treaty signing locations, and aircraft wrecks. All sites are the location of past human activities or events.

State Historic Preservation Officer (SHPO): The official appointed by the governor of each state or territory to carry out the functions defined in the NHPA and to administer the state's historic preservation program. SHPOs provide advice and assistance to federal agencies regarding their historic preservation responsibilities.

Stewardship: The management of resources entrusted to one's care in a way that preserves and enhances the resources and their benefits for present and future generations (DoDI 4715.3).

Stratified: Arranged in strata or layers.

Stream terrace: One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream and representing the dissected remnants of an abandoned floodplain, streambed, or valley floor produced by a former stage of erosion or deposition.

Structure: One of the five NRHP property types. A work constructed for purposes other than human shelter, including bridges, tunnels, dams, roadways, and military facilities such as missiles and their silos, launch pads, weaponry, runways, and water towers.

Subsurface deposit: A soil deposit containing archaeological remains below the ground surface. Subsurface deposits are common at villages and camps.

Topography: The relative position and elevation of the natural or man-made features of an area that describe the configuration of its surface.

Traditional cultural property (or place): 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 community's history and (b) are important in maintaining the continuing cultural identity of the community. The traditional cultural significance of a historic property is derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. Examples of properties possessing such significance include: a location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world; a rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents; a location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; a place where Native Americans still go to collect traditional tools or raw materials to make traditional items such as basketry or pottery..

Tribe: A federally recognized tribe or other federally recognized Native American group or organization (DoDI 4715.3).

Undertaking: Any project, activity, action, or program wholly or partly funded under the direct or indirect jurisdiction of a federal agency. Includes projects and activities that are executed by or on behalf of a federal agency; federally funded; require a federal permit, license, or approval; or are subject to state or local regulation administered through delegation or approval authority by a federal agency. Also, any action meeting this definition that may

have an effect on NRHP-eligible resources and thereby triggers procedural responsibilities under 16 USC 470 et seq. (see DoDI 4715.3).

Unexploded ordnance (UXO): Military munitions that have been primed, fused, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material, and remain unexploded either by malfunction, design, or any other cause.

Upland: Land at a higher elevation than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley: An elongate, relatively large, externally drained depression of the earth's surface that is primarily developed by stream erosion.

Viewshed: The total area visible from a point (or series of points along a linear transportation facility) and conversely the area that views the facility.

Weathering: All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

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“CULTURAL RESOURCES MANAGEMENT”

SUMMARY OF VOLUME 8 CHANGES

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REFERENCES

- (a) MCO 5750.1H
- (b) DoD Instruction 4715.16, "Cultural Resources Management," September 18, 2008
- (c) SECNAV Instruction 4000.35A
- (d) 54 U.S.C. 300101
- (e) Executive Order (E.O.) 13327, "Federal Real Property Asset Management," February 5, 2004
- (f) E.O. 13287, "Preserve America," March 3, 2003
- (g) Final Governing Standards (FGS) as developed by Lead Environmental Components for each country with significant DoD installations
- (h) Part 229 of Title 32, Code of Federal Regulations (32 CFR 229)
- (i) 16 U.S.C. §470aa-mm
- (j) 43 CFR 10
- (k) 36 CFR 61
- (l) 25 U.S.C. §§3001-3013
- (m) 36 CFR 79
- (n) 5 U.S.C. §552
- (o) 32 CFR 187
- (p) 42 U.S.C. 4321 et seq.
- (q) 36 CFR 800
- (r) DoD Instruction 4715.05-G, "Overseas Environmental Baseline Guidance Document," May 1, 2007
- (s) SECNAV M-5210.1
- (t) MCO 11000.25
- (u) 36 CFR 62
- (v) E.O. 13007, "Indian Sacred Sites," May 24, 1996
- (w) E.O. 13175, "Consultation and Coordination with Indian Tribal Governments," November 6, 2000
- (x) Presidential Memorandum, "Government-to-Government Relations with Native American Tribal Governments," April 29, 1994
- (y) DoD Instruction 4710.02, "DoD Interactions with Federally-Recognized Tribes," September 14, 2006
- (z) "Department of Defense American Indian and Alaska Native Policy (Annotated)," October 20, 1998
- (aa) E.O. 13693, "Planning for Federal Sustainability in the Next Decade," March 19, 2015

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CHAPTER 1

SCOPE

0101 PURPOSE

This Volume establishes Marine Corps policy and assigns responsibilities in accordance with the statutes and regulations cited in paragraphs 0201 and 0202, respectively, for achieving compliance with applicable federal statutory and regulatory requirements, Presidential Memoranda, Executive Orders (E.O.s), and Department of Defense (DoD) regulations and policies for the integrated management of cultural resources on Marine Corps lands or that may be affected by Marine Corps actions.

0102 APPLICABILITY

010201. This Volume applies to all real properties under the control of the Marine Corps by ownership, lease, or similar instrument that are located in the United States, the District of Columbia, and the commonwealths, territories, and possessions of the United States. This Volume also applies to lands not under Marine Corps ownership, lease, or similar instrument in those cases where actions financed, permitted, or sponsored by the Marine Corps may affect cultural resources on such lands. As noted in Volume 1 paragraph 0102 of this Order, these policies apply to overseas locations as well; exceptions will be identified as necessary throughout this Volume. Waters contiguous to the land areas may contain cultural resources; therefore, this Volume also applies to water areas under direct control of the Marine Corps and to submerged cultural resources located therein. For water areas under partial control subject to impacts related to Marine Corps actions, the Marine Corps will assess the effects of those actions on submerged resources located therein.

010202. This Volume does not apply to “Heritage Assets,” or historic objects associated with Marine Corps history (e.g., weapons, armored vehicles, plant, property, and equipment items that are considered to be unique due to their historical or natural significance; cultural, educational, or artistic importance; or significant architectural characteristics for the purposes of accountability in accordance with the Chief Financial Officers Act). Heritage assets, e.g., military artifacts, are addressed by MCO 5750.1H (Reference (a)).

010203. Due to the interdisciplinary nature of cultural resources, personnel should also refer to other volumes in this Order, specifically Volume 3 (Funding) for funding policy guidance and requirements and Volume 12 (Environmental Planning and Review) for guidance on preparing National Environmental Policy Act of 1969 (NEPA) documentation for cultural resource management actions and integrated cultural resources management plans (ICRMPs).

0103 BACKGROUND

Marines need access to a variety of landscapes and facilities to conduct training. However, training can impact cultural resources on public lands. The American people place intrinsic value on certain resources; failure to protect those resources under the stewardship of the Marine Corps may lead to legislative, executive, or judicial directives limiting Marine Corps access to lands necessary to

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maintain military readiness. Installation commanders shall ensure that the cultural resources entrusted to Marine Corps care remain available for future generations.

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CHAPTER 2

AUTHORITY

0201 FEDERAL STATUTES

This policy tiers off of the policies for cultural resources management outlined in Department of Defense (DoD) Instruction 4715.16 (Reference (b)) and Secretary of the Navy (SECNAV) Instruction 4000.35A, (Reference (c)). In addition, this policy incorporates the provisions of the following federal legislation, E.O.s, DoD and SECNAV regulations, and guidance, as appropriate to the management of cultural resources under the purview of the Marine Corps. (Only statutes b, j, and l apply to overseas installations).

- 020101. NEPA of 1969 (42 United States Code (U.S.C.) 4321 et seq.).
- 020102. National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. §§100101, 300101-307108 or Section 1 of the National Historic Preservation Act, Pub. L. No. 89-665, as amended by Pub. L. No. 96-515).
- 020103. Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) (25 U.S.C. §§3001-3013).
- 020104. Archeological Resources Protection Act (ARPA) of 1979, as amended (16 U.S.C. §470aa-mm).
- 020105. American Indian Religious Freedom Act (42 U.S.C. 1996 and 1996a).
- 020106. Antiquities Act of 1906 (54 U.S.C. §§320301-320303).
- 020107. Abandoned Shipwreck Act of 1987 (43 U.S.C. §§2101-2106).
- 020108. Archeological and Historic Data Preservation Act of 1974 (16 U.S.C. §469-469cc).
- 020109. Cooperative Agreements for Management of Cultural Resources (10 U.S.C. §2684).
- 020110. Federal Records Act of 1950 (44 U.S.C. §3101).
- 020111. Historic Sites Act of 1935 (54 U.S.C. §§102303-102304, 309101, 320101-320106).
- 020112. Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict, concluded on May 14, 1954 (Treaty Doc. 106-1(A)) [Congressional Record, September 25, 2008, page S9555].

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0202 FEDERAL REGULATIONS

Only paragraph 020214 applies to overseas installations.

020201. 32 Code of Federal Regulations (CFR) 187, “Environmental Effects Abroad of Major Department of Defense Actions”.

020202. 32 CFR 229, “Protection of Archeological Resources: Uniform Regulations”.

020203. 36 CFR 60, “National Register of Historic Places”.

020204. 36 CFR 61, “Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation”.

020205. 36 CFR 63, “Determinations of Eligibility for Inclusion in the National Register of Historic Places”.

020206. 36 CFR 65, “National Historic Landmarks Program”.

020207. 36 CFR 66, “Recovery of Scientific, Prehistoric, Historic and Archeological Data”.

020208. 36 CFR 67, Section 7, “The Secretary of the Interior’s Standards for Rehabilitation”.

020209. 36 CFR 68, “The Secretary of the Interior’s Standards for the Treatment of Historic Properties”.

020210. 36 CFR 78, “Waiver of Federal Agency Responsibilities, Under Section 110 of the National Historic Preservation Act”.

020211. 36 CFR 79, “Curation of Federally-Owned and Administered Archeological Collections”.

020212. 36 CFR 800, “Protection of Historic Properties”.

020213. 40 CFR 1500-1508, “Council on Environmental Quality”.

020214. 43 CFR 3, “Department of the Interior, Preservation of American Antiquities”.

020215. 43 CFR 10, “Native American Graves Protection and Repatriation Regulations”.

0203 EXECUTIVE ORDERS

Paragraphs 020302, 020303, and 020304 do not apply to overseas installations.

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020301. E.O. 11593, “Protection and Enhancement of the Cultural Environment”.
020302. E.O. 13006, “Locating Federal Facilities on Historic Properties in our Nation’s Central Cities”.
020303. E.O. 13007, “Indian Sacred Sites”.
020304. E.O. 13175, “Consultation and Coordination with Indian Tribal Governments”.
020305. E.O. 13287, “Preserve America”.
020306. E.O. 13327, “Federal Real Property Asset Management”.
020307. E.O. 13693, “Planning for Federal Sustainability in the Next Decade”.
- 0204 FEDERAL GUIDANCE
020401. 48 FR 22716, “The Secretary of the Interior's Professional Qualification Standards”.
020402. 53 FR 4742, “Guidelines for Federal Agency Responsibilities, Under Section 110 of the National Historic Preservation Act”.
020403. 62 FR 33707, “The Secretary of the Interior’s Proposed Historic Preservation Professional Qualification Standards”.
- 0205 DEPARTMENT OF DEFENSE (DOD) POLICY
020501. DoD Instruction 4710.02 “DoD Interactions with Federally-Recognized Tribes,” 14 September 2006.
020502. DoD Instruction 4710.03 “DoD Consultation Policy with Native Hawaiian Organizations,” 25 October 2011.
020503. DoD Minimum Antiterrorism Standards for Buildings (UFC 4-010-01).
020504. SECNAV Instruction 11010.14A, “Department of the Navy Policy for Consultation with Federally Recognized Indian Tribes”.
020505. SECNAV Manual 5210.1, “Department of the Navy Records Management Program Records Management Manual”.
020506. Nationwide Programmatic Memorandum of Agreement (MOA) among the United States Department of Defense, the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers (Concerning World War II Temporary Buildings).

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020507. Program Comment for Wherry and Capehart Era Family Housing at Air Force and Navy Bases.
020508. Program Comment: DoD Cold War-Era Unaccompanied Personnel Housing.
020509. Program Comment: DoD World War II- and Cold War-Era Ammunition Storage Facilities.
020510. DoD Instruction 4715.5 “Overseas Environmental Baseline Guidance Document”.

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REQUIREMENTS

0301 GENERAL

030101. The federal legislation, E.O.s, DoD and SECNAV regulations, and guidance pertaining to cultural resources establish requirements applicable to Marine Corps installations and activities as outlined below.

030102. In accordance with Section 300101 et seq. of Title 54, United States Code (54 U.S.C. 300101 et seq.) (also known and referred to in this Order as “National Historic Preservation Act,” (NHPA) as amended) (Reference (d)) and DoD policies, the Marine Corps is responsible for managing and maintaining cultural resources under its control through a comprehensive program that considers the preservation of their historic, archaeological, architectural, and cultural values; supports the mission; and results in sound and responsible stewardship. Through the integration of its cultural resources management policies and procedures with Marine Corps mission, the Marine Corps will provide stewardship of cultural resources in a sustainable manner that supports the mission and promotes the quality of life for stakeholders.

0302 INVENTORY AND EVALUATION

030201. General

Section 110 of Reference (d), in accordance with Executive Order (E.O.) 13327 (Reference (e)), calls for federal agencies to maintain accurate information on the state of federally-owned historic properties. A Marine Corps installation with real property management responsibilities shall prepare an assessment of the current status of its inventory of historic properties, the general condition and management needs of such properties, and the steps underway or planned to meet those management needs as required by Section 110(a)(2) of Reference (d) and in accordance with E.O. 13287 (Reference (f)) or, pursuant to Final Governing Standards (FGS) as developed by Lead Environmental Components for each country with significant DoD installations (Reference (g)), inventories of properties listed on the World Heritage List or host nation equivalent of the National Register of Historic Places (NRHP). Codes reflecting the inventory status of Marine Corps real property shall be updated in Internet Navy Facilities Assets Data Store (iNFADS) on an annual basis.

030202. Inventory

A. All Marine Corps installations are responsible for identifying cultural resources within the installation boundaries and maintaining complete and current information regarding resource location, significance, condition, and use. Marine Corps installations will survey unsurveyed or inadequately surveyed land parcels or unevaluated buildings/structures within the installation, prioritizing surveys according to mission requirements and the potential to affect cultural resources. Survey priority goals may be aligned with environmental review of proposed undertakings (e.g., surveys in support of Section 106 process undertakings may take priority); however, annual survey goals should typically exceed acreage or buildings/structures to be affected by the installation’s proposed undertakings.

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B. Inventory of resources of traditional, religious, or cultural significance to Native American tribes, Alaskan Native villages or corporations, or Native Hawaiian organizations (NHOs) should be completed in consultation with representatives of affiliated tribes or organizations. Inventories of host nation cultural properties should be coordinated with host nation officials, as directed by Reference (g).

030203. Evaluation

All Marine Corps installations are responsible for evaluating the NRHP eligibility or host nation significance of identified resources within the boundaries of the installation. Evaluation of historic buildings and structures should be done in conjunction with the inventory and should take place when buildings/structures turn 50 years in age; both survey and evaluation should be preceded by development of detailed historic contexts for the installation. In the event a building/structure is not evaluated upon turning 50 years of age, then the building/structure shall be treated as though it is eligible for the NRHP until such time a formal evaluation and consultation is completed. Marine Corps installations will proactively program projects for evaluation of cultural resources on an annual basis, prioritizing evaluation of resources in consultation with internal and external stakeholders, and as necessary to support environmental reviews for undertakings. Evaluation of traditional cultural properties or other resources of traditional, religious, or cultural significance to Native American tribes, Alaskan Native villages or corporations, or NHOs should be completed in consultation with representatives of affiliated tribes or organizations. Evaluations of host nation cultural properties should be coordinated with host nation officials, as directed by Reference (g). Properties previously determined eligible or ineligible may periodically require re-evaluation due to the passage of time, evolving understanding of historical significance, or inadequate previous evaluations.

030204. Nomination

All Marine Corps installations are responsible for nominating historic properties to the NRHP, as appropriate to facilitate the mission, in consultation with Headquarters, Marine Corps, Facilities and Services Division (HQMC) (LF)/Marine Corps Installations Command, Facilities Division (MCICOM (GF)). Nomination forms prepared by installations should be submitted to the State Historic Preservation Office (SHPO) and any consulting partners, as applicable, for review and comment, and should be staffed for signature by the Department of the Navy (DON) Federal Preservation Officer (FPO) via the Marine Corps Deputy FPO. Once signed, the forms will be returned to the installation for submittal to the Keeper of the National Register through the SHPO. Marine Corps commanders should prioritize nominations based on installation planning requirements; those resources that have potential for public use or access should be nominated first to facilitate outreach or heritage tourism efforts. Commanding Generals/Commanding Officers (CGs/COs) should be aware that resources determined eligible for listing on the NRHP are afforded the same level of protection as those listed on the NRHP. Overseas installations do not have this requirement; evaluations are coordinated with the appropriate host nation official, who applies host nation procedures for nomination to local, prefectural, or national cultural property lists.

030205. Permits

In some instances, archaeological investigations may require federal, state, or host nation permits. The most common categories of permits are described below.

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A. ARPA Permits

1. ARPA permits are required when the following three criteria are met:

- a. The project is on federal land.
- b. Digging or collection of artifacts will occur.
- c. The participants are not directly contracted to or by the Marine

Corps.

2. Part 229 of Title 32, Code of Federal Regulations (32 CFR 229) (Reference (h)) provides guidance for DoD compliance with the requirements of ARPA; language related to permits is included in parts 229.5 through 229.11. For the purposes of Marine Corps compliance with 16 U.S.C. §470aa-mm (also known and referred to in this Order as “Archeological Resources Protection Act,” (ARPA) as amended) (Reference (i)) and Reference (h), the CG/CO is considered the federal land manager as defined in Section 3(c) of 43 CFR 10 (Reference (j)). As the federal land manager, the CG/CO will issue ARPA permits when required and will ensure that applicants meet the professional standards for “Archeologist” outlined in 36 CFR 61 (Reference (k)). Permits for archaeological investigations that could result in the excavation or removal of Native American tribe, Alaskan Native village or corporation, or NHO human remains and other cultural items as defined in 25 U.S.C. §§3001-3013 (also known and referred to in this Order as “Native American Graves Protection and Repatriation Act” (NAGPRA)) (Reference (l)), or in the excavation of archaeological resources that are of religious or cultural importance to federally recognized Native American tribes, Alaskan Native villages or corporations, or NHOs, will be issued after the CG/CO conducts consultation in accordance with section 5 of Reference (e) and Section 7 of Reference (h) with the culturally affiliated Native American tribes, Alaskan Native villages or corporations, or NHOs (see also Section 7 of Reference (h)).

3. The CG/CO will ensure that documentation of consultation with culturally affiliated Native American tribes, Alaskan Native villages or corporations, or NHOs is prepared and maintained as part of the record of each such permit. ARPA permits shall provide for the disposition of NAGPRA cultural items in accordance with subsections 3(a) and 3(b) of Reference (l) and in accordance with Reference (j), or for the appropriate curation of collections pursuant to 36 CFR 79 (Reference (m)) (see also Section 13 of Reference (k)). Also in accordance with Section 9 of Reference (i) and parts 229.9 and 229.18 of Reference (h), the CG/CO may withhold information concerning the nature and location of archaeological resources from the public in accordance with subchapter II of chapter 5 of Title 5 of U.S.C. (see 5 U.S.C. §552, also known and referred to in this order as “Freedom of Information Act,” (Reference (n))) or in accordance with any other provision of law.

B. Other Federal Agency Permits

In situations where the Marine Corps shall conduct archaeological investigations on lands owned by other federal agencies, the Marine Corps will coordinate with that agency’s representative to determine whether permits are necessary in advance of the investigations.

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Examples of federal agencies that require permits include the Bureau of Land Management and the U.S. Forest Service.

C. Host Nation Permits

Overseas installations should refer to the appropriate final governing standards (FGS) regarding permit requirements for archaeological investigations.

0303 RESOURCE PROTECTION

Marine Corps installations shall implement policies and procedures for assessment of the condition of known cultural resources; avoidance or mitigation of impacts on cultural resources from Marine Corps actions or the actions of contractors or tenants working on Marine Corps installations; maintenance and treatment actions to ensure preservation or enhance the condition of cultural resources; management of the data related to cultural resources; and public outreach and education.

030301. Inventory and Evaluation of Cultural Resources

Although inventory and evaluation of cultural resources are critical aspects of the Marine Corps cultural resources management program, as well as necessary for compliance with federal statutes and regulations, management shall also include policies and procedures for assessing the condition of known resources, avoidance or mitigation of impacts on cultural resources from Marine Corps actions or the actions of contractors or tenants working on Marine Corps installations, maintenance and treatment actions to ensure preservation or enhance the condition of cultural resources, management of the data related to cultural resources, and public outreach and education. The Marine Corps will ensure that such properties are not inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate significantly.

030302. ICRMPs

Reference (b) requires that all installations with cultural resource management responsibilities within the United States develop and implement ICRMPs in consultation and partnership with internal and external stakeholders of the cultural resources management program. The Marine Corps develops ICRMPs as management tools to ensure the most time- and cost-efficient method of integration with project and operations planning to facilitate mission. The ICRMP, which is signed and implemented by the installation commander, is the planning tool for consolidating the inventory and management requirements in accordance with Reference (d) and other statutes, and so is an essential element in legal compliance with those statutes. Guidelines for preparing ICRMPs for Marine Corps installations are provided by HQMC (LF)/MCICOM (GF), based on the list of required elements for ICRMPs noted in Reference (b). All ICRMPs will be reviewed annually by the installation and updated as required. Recommend coordinating the annual review with the SHPO/Tribal Historic Preservation Office (THPO). All 5-year ICRMPs will be reviewed by the HQMC (LF)/MCICOM (GF) Cultural Resources Manager (CRM) prior to final signature by the commanding officer. ICRMPs shall be signed by the commanding officer after obtaining Region and HQMC)LF/MCICOM (GF) concurrence. Installation commanders are encouraged to implement their ICRMP through a base order.

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030303. Project Review

A. Environmental Review

The NEPA process (or process for overseas installations pursuant to 32 CFR 187 (Reference (o))) is intended to help public officials make decisions that are based on an understanding of environmental consequences and take actions that protect, restore, and enhance the environment, including the cultural environment. Although 42 U.S.C. 4321 et seq. (also known and referred to in this order as “National Environmental Policy Act” (NEPA)) (Reference (p)) and Section 106 of Reference (d) processes (or References (g) and (o) review processes for overseas installations) can be coordinated for specific undertakings, they have separate requirements. For example, a project may receive a Categorical Exclusion as defined by Reference (p), but still require review pursuant to Section 106 of Reference (d). Marine Corps installations are responsible for ensuring that accurate information regarding cultural resources and the potential impacts of a Proposed Action or Alternatives on such resources are included in all NEPA analyses completed for the installation. To ensure that cultural resources concerns are adequately addressed in the Marine Corps environmental review process, the installation CRM should be included in the review of Request for Environmental Review Forms and participate in Environmental Impact Review Boards.

B. NHPA

The NHPA, as codified pursuant to 36 CFR 800 (Reference (q)), requires the head of any federal agency, including the military services, to take into account the impacts of their undertakings on historic properties. An undertaking is defined as any federal, federally-assisted, or federally-licensed action, activity, or program, new or continuing, that may have an effect on historic properties. This effort, commonly called the “Section 106 process” after the section in Reference (d) that calls for such effort, is designed to identify possible conflicts between historic preservation objectives and the undertaking, and to resolve those conflicts in the public interest through consultation. Neither Reference (d) nor Advisory Council on Historic Preservation (ACHP) regulations require that all historic properties be preserved; they only require the agency consider the effects of the proposed undertaking on those properties and fulfill the procedural requirements for Reference (d) prior to implementation. The underlying purpose of Reference (d) is to balance progress with preservation. Consultation with the SHPO and/or the ACHP and the public is required. If an undertaking may affect properties having historic value to a Native American tribe, Alaskan Native village or corporation, or NHO, such entity shall be afforded the opportunity to participate as consulting parties during the consultation process. Failure of the Marine Corps to take into account the effects of an undertaking on historic properties and afford the ACHP a reasonable opportunity to comment on such effects, can result in formal notification from the ACHP to the Secretary of the Navy of foreclosure of the ACHP’s opportunity to comment on the undertaking pursuant to Reference (d). Failure to comply with the Section 106 process may result in litigation or other forms of redress against DoN that can halt or delay critical activities or programs. A summary of the procedural requirements of Section 106 is available on the ACHP’s website. Because both Reference (d) and its implementing regulations (see Reference (q)) are subject to change, Marine Corps personnel should check this website periodically.

1. Compliance via Program Alternatives. Compliance with Section 106 can also be governed by the terms of an agreement document or program alternative, such as a program

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comment, MOA, or programmatic agreement (PA). Installation CGs/COs should review all agreement documents that pertain to management of cultural resources on their installations to identify the roles and responsibilities assigned to the installation pursuant to each agreement. Examples of such agreements include the program comments referenced in paragraph 030305 and PAs governing Section 106 of Reference (d) compliance for the various public-private venture (PPV) ground leases.

2. Overseas Installations. For overseas installations, Section 402 of Reference (d) states that “prior to the approval of any federal undertaking outside the United States which may directly and adversely affect a property which is on the World Heritage List or on the applicable country's equivalent of the National Register, the head of a federal agency having direct or indirect jurisdiction over such undertaking shall take into account the effect of the undertaking on such property for purposes of avoiding or mitigating any adverse effects.” Currently, there are no implementing regulations for Section 402; however, the core elements of the “take into account” process are encompassed in Reference (g). For more information, reference the DoD Instruction 4715.05-G (Reference (r)).

030304. Emergency Situations

In accordance with Section 12 of Reference (q)(emergency situations), the timeline for Section 106 review of renovations and repairs to historic buildings can be substantially reduced if the renovation or repair is required as a result of an emergency situation (e.g., flooding, tornados, earthquakes, or hurricanes). The reduction of the timeline only applies in those situations where the President or the Governor has declared an official state of emergency. The Marine Corps notifies the ACHP, the SHPO/THPO, and any other interested parties of the project; these parties then have seven days, rather than the traditional 30 days, to comment on the undertaking. As a proactive measure, the Marine Corps could also work with the ACHP, SHPO/THPO, and interested parties to develop a PA (see paragraph 8302.d(2)(a)) outlining streamlined procedures for emergency situations. Marine Corps installations will ensure that all reasonable efforts are made to avoid or minimize disturbance of significant cultural resources during emergency operations and will communicate with applicable Marine Corps personnel and external stakeholders regarding potential effects on significant cultural resources that could occur in association with such activities. Once the emergency has passed, Marine Corps installations will complete all appropriate actions to complete the Section 106 process, including submittal of any reports or correspondence documenting the actions taken. Although Reference (q) does not apply to overseas installations, the policies outlined above should be considered a best management practice (BMP) to the extent they do not conflict with Reference (g).

030305. Program Alternatives

Program alternatives, as defined in Section 14 of Reference (q), may be used as an alternative to case-by-case consultation in accordance with Section 106 of Reference (d). Appropriate applications are described in Reference (q) and include efforts to streamline compliance for categories of similar undertakings or similar effects, and may be applied at state, regional, or nationwide levels. Marine Corps installations are encouraged to pursue program alternatives with stakeholders, as appropriate, to streamline compliance with federal regulations or structure protocols for consultation and responses to situations such as inadvertent discovery of human remains.

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Implementation and use of program alternatives generally requires up-to-date inventories and a comprehensive management approach. Program alternatives include PAs, program comments, standard treatments, exemptions, and alternative procedures. Adopting any program alternative requires consultation with relevant stakeholders and, for regional or national alternatives, coordination with the chain of command and other affected commands and agencies. Program comments do not apply to overseas installations.

030306. Monitoring, Maintenance, and Treatment

A. For archaeological resources, Marine Corps installations shall develop procedures for monitoring the condition of known archaeological sites for evidence of disturbance from natural processes, such as erosion, fire, or floods, or human action, such as training activities, landscape maintenance activities, recreational use, or intentional looting. Monitoring procedures should be paired with procedures for stabilizing sites should impacts be noted, documenting site condition, and reporting impacts to the appropriate stakeholders, such as the SHPO, Native American tribes, Alaskan Native villages or corporations, and NHOs with ancestral ties to the installation, or appropriate host nation officials. CRMs and conservation law enforcement officers should obtain ARPA training in order to learn the proper procedures for enforcement of ARPA and reporting ARPA (or host nation equivalent) violations on Marine Corps installations, and should ensure that all installation personnel who conduct activities that have the potential to impact archaeological resources are provided with training on how to avoid such impacts as well as standard operating procedures to follow should archaeological materials be inadvertently discovered. Specific guidance on enforcement of ARPA on DoD lands, including discussion of prohibited acts and criminal penalties, assessment of penalties, and reporting, is provided in Reference (h). The CG/CO will ensure that military police, installation legal staff, the installation Public Affairs Officer, Conservation Law Enforcement Officers, and the fish, game, and recreation management staff are familiar with the requirements and applicable civil and criminal penalties as defined by References (i) and (h). CGs/COs will ensure that land use instruments allowing for military use are reviewed to determine proper roles and responsibilities.

B. For situations involving resources of interest to Native American tribes, Alaskan Native villages or corporations, or NHOs that have a tangible, physical footprint on Marine Corps installations (e.g., areas containing medicinal plants, human burial sites, petroglyphs, identified cultural landmarks) or protected cultural properties on overseas installations, the Marine Corps should develop a monitoring procedure in consultation with the appropriate tribes, villages/corporations, NHOs, or host nation officials. Marine Corps installations should ensure that procedures for reporting inadvertent discoveries of human remains or items of cultural patrimony are distributed to all installation personnel, tenants, and contractors. To facilitate consultation regarding inadvertent discoveries, domestic Marine Corps installations are encouraged to pursue comprehensive agreements or NAGPRA Plans of Action with affiliated tribes or organizations.

C. For historic buildings, structures, or districts that are eligible for or listed on the NRHP, or designated as protected cultural properties on overseas installations, installations should develop Maintenance and Treatment Plans (MTPs) for long-term care of these resources. An MTP is typically a 5-year management plan that provides guidance to CRMs and installation maintenance and facilities personnel in addressing deterioration or failure of historic materials and systems. An MTP identifies historic properties' character-defining features, contributing elements,

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materials, and condition and promotes the preservation of these resources through planning, design, cyclic maintenance, and appropriate treatments for repair, rehabilitation, and restoration. An MTP is generally installation-specific due to regional variations in construction methods and weather, and should focus on a range of alternatives and treatments from stabilization to restoration.

030307. National Historic Landmarks (guidance does not apply to overseas installations)

A. Section 101(b) of Reference (d) provides for the inclusion of national historic landmarks (NHLs) on the NRHP. Section 110(f) affords NHLs more stringent protection than other NRHP resources. Federal regulations outline procedures for consultation with the SHPO, the ACHP, and the National Park Service (NPS) to minimize harm to NHLs by federal agency undertakings.

B. The NPS maintains a continued relationship with owners of NHLs. Agencies shall cooperate with the procedures of periodic visits, contacts with SHPOs, and other measures that the NPS uses to ensure that landmarks retain their integrity, to advise agencies concerning accepted preservation standards, and to update administrative records on landmark properties. The Department of the Interior (DOI) reports annually to Congress regarding damaged or threatened NHLs.

C. Although property owners and SHPOs may nominate NHLs, designation ordinarily occurs after a study by the NPS. Preservation is not absolutely required as long as mandated procedures are followed and documented in any decision not to preserve. A finding of adverse effect to an NHL requires full ACHP participation in the consultation process.

030308. Curation

A. The overall goal of the federal curation program, as set forth in Reference (m), is to ensure the preservation and accessibility of cultural resource collections and documents for use by members of the public interested in the archaeology and history of the region. In accordance with the requirements of Reference (m), the installation CG/CO shall ensure that all archaeological collections and associated records, as defined in part 79.4(a) of Reference (m), are processed, maintained, and preserved. Associated records shall be maintained and preserved pursuant to SECNAV M-5210.1 (Reference (s)).

B. Collections from federal lands should be deposited in a repository that meets the standards outlined in Reference (q) to ensure that they will be safeguarded and permanently curated in accordance with federal guidelines. A curation facility is specifically designed to serve as a physical repository where collections and records are sorted, repackaged, assessed for conservation needs, and then placed in an appropriate, environmentally-controlled, secure storage area. Collections from federal lands remain the property of the federal government; accordingly, CRMs should schedule an annual visit to the curation repository to ensure that the collections are being managed appropriately. In the event, ordnance is encountered during an archaeological investigation or monitoring activity, Marine Corps Explosives Ordnance Disposal (EOD) shall be contacted for evaluation and action. Any historic ordnance encountered shall be inspected and rendered inert by Marine Corps Explosives Ordnance Disposal (EOD) and then returned to the CRM. If EOD cannot render the item(s) inert or sees the item(s) as representing a safety hazard, the item(s) will be photo-

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documented and measured under EOD supervision and then given to EOD for appropriate storage or disposal.

C. The procedures outlined in Reference (m) do not apply to overseas installations; refer to any curation language provided in the relevant FGS.

030309. Data Management

Integrating cultural resources management data with the installation geographic information system (GIS) program allows the cultural resources program to more efficiently support the Marine Corps mission of readiness. GIS layers should be developed for all categories of cultural resources present within the installation (e.g., historic buildings, archaeological sites, and resources of interest to Native American tribes, Alaskan Native villages or corporations, or NHOs). GIS layers should also be developed to show the progress of archaeological survey efforts and any sensitivity assessments used by the installation to prioritize survey efforts. The GIS program can facilitate integration of cultural resource BMPs into installation planning and projects. GIS layers and themes depicting archaeological resources and sacred sites are considered sensitive and will not be released to the general public. These layers should be password-protected. When preparing the scope of work for contracts addressing cultural resources issues, installations should include the language for GIS requirements provided in MCO 11000.25 (Reference (t)) to ensure that GIS deliverables meet federal standards and are compatible with Marine Corps data models.

030310. Public Outreach

Reference (f) encourages federal agencies to preserve America's heritage by actively advancing intergovernmental cooperation and partnerships for the preservation and use of historic properties and promoting heritage tourism. A preservation awareness program shall be directed to both Marine Corps personnel and external interests if it is to be effective. Education can promote awareness of important Marine Corps cultural resources projects and the rationale behind them. Special events with local and national significance offer excellent opportunities to educate the public on cultural resources preservation. Events such as Earth Day (22 April), Independence Day (Fourth of July), Veteran's Day, National Historic Preservation Week (third week in May), National Public Lands Day (last Saturday in September), and local town celebrations are opportunities for the Marine Corps to help educate people about cultural resources and preservation principles. Although the public outreach and heritage tourism elements of Reference (f) do not apply to overseas installations, development of a preservation awareness program for internal and external stakeholders should be considered a BMP.

0304 CONSULTATION

Marine Corps installations have a responsibility to consult with internal and external stakeholders on a regular basis. References (b), (d), and (l) require coordination with interested parties and other government agencies, depending on the action involved.

030401. Consultation with Internal and External Stakeholders

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A. To ensure that management of cultural resources is integrated with installation planning and in compliance with federal statutes and regulations, the Marine Corps has a responsibility to consult with internal and external stakeholders on a regular basis. References (d), (l), and (p) and the FGS require varying levels of coordination with interested parties and other government or host nation agencies, depending on the action involved. External agencies and stakeholders that might be involved in cultural resources management include:

1. Other federal agencies.
2. SHPOs.
3. Native American tribes, Alaskan Native villages and corporations, or NHOs.
4. ACHP.
5. NPS.
6. Keeper of the National Register, DOI.
7. Host nation officials.
8. Interested members of the public, including ethnographic groups, historic organizations, and others.

B. Although the Marine Corps might contract cultural resources professionals to conduct surveys and evaluations, it is the responsibility of the Marine Corps to consult with external stakeholders. Consultation should not be delegated to contractors (including Naval Facilities Engineering Command or the U.S. Army Corps of Engineers). The Marine Corps will comply with all pertinent laws and regulations concerning the management and preservation of cultural resources and will, where appropriate, consult or coordinate with external stakeholders, as required:

1. To comply with Reference (d) Sections 106, 110, and 402.
2. To comply with References (o) or (p).
3. In accordance with Reference (d), if the Marine Corps and the SHPO come to a disagreement regarding NRHP eligibility recommendations, the Keeper of the National Register can be consulted. Guidance on preparing a determination of eligibility can be found at Section 3(d) in 36 CFR 62 (Reference (u)).
4. In accordance with Reference (d), if the Marine Corps and the SHPO come to a disagreement regarding the Section 106 process, the ACHP may assist. The Marine Corps shall also invite the ACHP to participate in consultations regarding the resolution of adverse effects to historic properties.

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5. In accordance with References (d), (g), (l), and (p), the CRM shall coordinate with interested Native American tribes, Alaskan Native villages and corporations, or NHOs.

6. In accordance with Reference (d), the CRM will consult with the NPS for all Section 106 undertakings that have the potential to affect a NHL.

030402. Consultation with Native American Tribes, Alaskan Native Villages or Corporations, or NHOs

References (d), E.O. 13007 (Reference (v)), E.O. 13175 (Reference (w)), Presidential Memorandum (Reference (x)), DoD Instruction 4710.02 (Reference (y)), and “Department of Defense American Indian and Alaskan Native Policy (Annotated)” (Reference (z)) include guidance on how federal agencies should consult with federally recognized Native American tribes, Alaskan Native villages or corporations, and NHOs. It should be noted that not all of this guidance refers to all Native entities (e.g., Reference (y) refers only to Native American tribes and Alaskan Native villages). The goal of the consultation process is to identify both resource management concerns and the strategies for addressing them through an interactive dialogue with appropriate American Indian tribes, Alaskan Native villages and corporations, and NHOs. Consultation takes on many forms but shall be conducted on a government-to-government basis unless delegated by agreement to subordinate representatives of each government (e.g., the THPO and installation CRM). Consultation responsibilities cannot be delegated to contractors even in those instances where management responsibility for some resources has been delegated to another entity (e.g., in the case of PPV contracts, the Marine Corps retains the responsibility for consultation with Native American tribes, Alaskan Native villages or corporations, and NHOs). The Marine Corps might need to consult on a project basis for proposed actions that could affect cultural resources of interest to American Indian tribes, Alaskan Native villages and corporations, and NHOs. If Marine Corps activities have the potential to affect such resources, all interested Native American tribes, Alaskan Native villages or corporations, and NHOs will be consulted early in the planning process and their concerns will be addressed to the greatest extent possible. Establishing a permanent relationship with Native American tribes, Alaskan Native villages or corporations, and NHOs will lead to better understanding of each party’s interests and concerns and development of a trust relationship. This will streamline future project-based consultation and streamline the inadvertent discovery process.

0305 CONFIDENTIALITY REQUIREMENTS

Cultural resource preservation statutes require Marine Corps installations to withhold certain information from disclosure to the public. Section 470w-3(a) (Confidentiality of the location of sensitive historic resources) of Reference (d) states that:

030501. “The head of a federal agency or other public official receiving grant assistance pursuant to this Act, after consultation with the Secretary, shall withhold from disclosure to the public, information about the location, character, or ownership of a historic resource if the Secretary and the agency determine that disclosure may:

- A. Cause a significant invasion of privacy;

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- B. Risk harm to the historic resources; or
- C. Impede the use of a traditional religious site by practitioners.”

030502. On federal property, Reference (i) also provides provisions for restriction of information on archaeological site locations. Native American tribes, Alaskan Native villages or corporations, and NHOs have an interest in restricting this information and are not expected to divulge such location information unless they can be reassured of restrictions for access. Therefore, it is extremely important that persons using this document and other cultural resources reports and maps understand that access to all archaeological resource descriptions and locations is restricted to the CRM or Environmental Manager for internal use only. Access to such information in databases and the GIS should be limited to CRMs, cultural resource professionals, and others with a substantial need to know.

0306 SUSTAINABILITY

030601. Sustainability

One of the primary elements of environmental stewardship within the DoD is sustainability. Within DoD, sustainability applies to design, construction, operations, and resource conservation. Through conservation, improved maintainability, recycling, reduction and reuse of waste, and other actions and innovations, the Marine Corps can meet today’s needs without compromising the ability of future generations to meet their own.

030602. Sustainable Conservation

The federal government encourages agencies to take the lead in being stewards of the environment to preserve today’s resources for the future. E.O. 13693 (Reference (aa)) encourages the rehabilitation of federally owned historic buildings, including utilizing best practices and technologies to “promote long-term viability of the buildings.”

030603. Archaeological Resources

A. Archaeological sites provide a historical physical record of how people have interacted with their environment and tell us of how they have led their lives. Because archeological sites mark a moment in time, they are non-renewable resources. With respect to sustainability, archaeological sites on Marine Corps installations can be considered:

1. The only source for understanding the development of human society in prehistoric and much of historic times within the lands contained within installations.
2. A source of enjoyment and interest through intellectual and physical engagement and leisure-time pursuits, contributing to general mental, spiritual, and physical health.
3. An important medium for general education, life-long learning, and personal development.

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4. A vital basis of people's awareness of historical and cultural identity, sense of community and place, and a key source of perspective on social change.

5. A means of understanding long-term environmental change in relation to sustainability.

6. A source of evidence about past use of renewable energy and recyclable resources such as water, timber, mineral resources, and organic waste.

B. In addition to promoting public awareness of archaeological information and the benefits of preservation to the larger installation community (see paragraph 030310), Marine Corps installations should employ innovative technical and interpretive practices to integrate archaeology into the mission.

030604. Historic Buildings and Structures

Sustainability in the built environment can be achieved through adaptive reuse of historic structures. When making decisions regarding replacement, renovation, or demolition of historic buildings and structures, it is Marine Corps policy to:

A. Accurately analyze the life-cycle benefits and costs of sustainable or adaptive reuse of historic buildings and structures compared to new construction.

B. Employ innovative technical and design practices to facilitate mission use of historic buildings and structures with minimum loss of historic integrity.

C. Prefer partnerships with government, public, and private organizations to promote local economic development and vitality through use of historic properties in a manner that contributes to the long-term preservation and productive use of those properties in lieu of demolition.

D. Consider systematic deconstruction and architectural salvage of historic building fabric when demolition is necessary, especially where historic fabric may be reused to preserve other similar properties in the inventory.

0307 ANNUAL REPORTING AND METRICS

The Marine Corps is responsible for responding to various data calls and asset management inventories on an annual basis. Responses to data calls may include input of data by installation CRMs into DON databases (e.g., iNFADS heritage asset codes) and Marine Corps databases (e.g., Conservation Metrics Portal) or responses via phone or email to HQMC (LF)/MCICOM (GF) personnel. In order to ensure accurate reporting of assets and asset status each year, installations shall maintain records of their responses to each data call, labeled with the fiscal year of the response and including any supporting information to support their responses, in a file accessible to their supervisors or to the HQMC (LF)/MCICOM (GF) Cultural Resources Specialist.

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“RESPONSIBILITIES”

SUMMARY OF SUBSTANTIVE CHANGES

Hyperlinks are denoted by *bold, italic, blue and underlined font.*

The original publication date of this Marine Corps Order (MCO) Volume (right header) will not change unless/until a full revision of the MCO has been conducted.

All Volume changes denoted in blue font will reset to black font upon a full revision of this Volume.

CHAPTER VERSION	PAGE PARAGRAPH	SUMMARY OF SUBSTANTIVE CHANGES	DATE OF CHANGE

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CHAPTER 4

RESPONSIBILITIES

0401 CMC (LF)/COMMANDER MCICOM (GF)

CMC (LF)/Commander MCICOM (GF) shall:

040101. Establish a cultural resources management program and promulgate guidelines and attendant responsibilities.

040102. Designate a qualified staff person to serve as the Marine Corps Deputy FPO and representative on the DoD Historic Preservation Working Group.

040103. Coordinate with the Deputy Under Secretary of Defense, Environmental Security, DoD components, DOI, ACHP, and the National Conference of SHPOs in matters related to cultural resources management.

040104. Identify Marine Corps-wide priorities and allocate centrally-managed funds that may be used for cultural resources management. Maintain cost records of inventory and treatment of cultural resources.

040105. Maintain Marine Corps procedural and policy-making expertise for inter-agency coordination and other aspects of compliance with preservation legislation; assist in resolving disputes with federal, State, local, and foreign regulatory agencies.

040106. Forward NRHP nominations to the Office of the Assistant Secretary of the Navy for Energy, Installations and Environment, and the Keeper of the NRHP.

040107. Respond to Congressional and other inquiries to satisfy Office of the Secretary of Defense reporting requirements.

040108. Provide support to Marine Corps installations and Marine Corps commands/units and tenants by interpreting federal, State, local, and overseas historic and archaeological resource requirements and by uniformly applying Marine Corps policy as set forth in this Order.

040109. Ensure, through field visits and the Environmental Compliance Evaluation Program, Marine Corps cooperation and compliance with federal, State, and local regulatory agencies with regard to cultural resources statutes and regulations.

0402 COMMANDING GENERAL (CG) MARINE CORPS EAST, WEST, PACIFIC, AND NATIONAL CAPITAL REGION

CG Marine Corps East, West, Pacific, and National Capital Region shall identify and promote opportunities for regional environmental initiatives and contracting support to gain efficiencies. Create environmental program efficiencies by collectively funding studies, coordinating common

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training programs, developing appropriate Memorandums of Agreement between stakeholders (e.g., Marine Corps TECOM installations, Marine Aircraft Wings, Resident Officer In Charge of Construction offices, etc.) and the Region, and facilitating mutual support between installations as practicable.

0403 COMMANDING GENERAL (CG)/COMMANDING OFFICER (CO) OF MARINE CORPS INSTALLATIONS AND COMMARFORRES

CG/CO of Marine Corps installations and COMMARFORRES shall:

040301. Program, budget, and allocate funds for qualified staffing, training, surveys, plans, curation, and studies to facilitate the identification, evaluation, inventory, planning, maintenance, and protection of historic properties and other cultural resources at installations under their cognizance.

040302. Develop, sign, and implement an ICRMP for all installation lands and waters that contain cultural resources, and integrate the ICRMP with other installation planning documents and routine procedures applicable to activity projects and programs. Use of a base order to implement the ICRMP is recommended.

040303. Coordinate among subordinate and tenant activities to achieve maximum efficiency regarding compliance with cultural resources management requirements within the region.

040304. Provide for the professional identification, evaluation, inventory, nomination, and protection of cultural resources under their control and ensure that the appropriate data management systems, including spatial data systems, accurately reflect the eligibility status of such resources.

040305. Follow all legally-mandated procedures if historic properties (as defined by Reference (d)) are to be transferred, sold, demolished, substantially altered, or allowed to deteriorate significantly.

040306. Consult or coordinate with the SHPO and other consulting parties, interested groups, and individuals, as required by Reference (p) (or Reference (o) for overseas installations), Sections 106 and 402 of Reference (d), and Reference (g), when proposed actions have the potential to effect cultural resources. When appropriate or in the interests of BMPs, enter into agreements to facilitate consultation and establish consultation protocols or response procedures. Neglecting to consult with these interested parties early in the planning process could result in unnecessary tension, which will cause delays that translate into government time and cost.

040307. Consult with Native American tribes, Alaskan Native villages or corporations, and NHOs prior to any Marine Corps action that might impact American Indian tribal or Native Hawaiian interests as defined by applicable laws and regulations, including planned excavation and inadvertent discovery provisions in accordance with Reference (I).

040308. Ensure that inadvertently discovered archaeological resources, human remains, or cultural items (as defined by Reference (I)) are protected at the site of discovery until

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cultural resource professionals evaluate the resources' significance and make recommendations regarding protection or recovery. Ensure that the chain of command is kept informed.

040309. Whenever practical, use historic buildings instead of new acquisition, construction, or leasing to satisfy mission requirements.

040310. Ensure that funds budgeted for historic preservation are applied to NRHP resources.

040311. Provide for storage and professional curation of salvaged archaeological resources and records that result from compliance actions.

040312. Take appropriate action on archaeological permit requests. Review requests for permits to allow the excavation and removal of archaeological resources from Marine Corps lands.

040313. Provide for the identification and repatriation of Native American tribe, Alaskan Native village or corporation, or NHO remains and associated cultural items in accordance with Reference (1) and other implementing regulations issued by the DOI.

040314. Allow Native American tribes, Alaskan Native villages or corporations, Native Hawaiians, NHOs, and host nation cultural practitioners access to sites and resources that are of religious importance or that are important to the continuance of their cultures, as consistent with the military mission, the American Indian Religious Freedom Act, and other appropriate laws and regulations subject to the same considerations as the general public.

040315. When warranted by the presence of cultural resources, designate a staff person to serve as CRM. CRMs should be provided with adequate training to ensure that they have a full understanding of their position duties and can provide adequate guidance on compliance with cultural laws and regulations to other stakeholders.

0404 CULTURAL RESOURCE MANAGER (CRM)

Cultural Resource Manager (CRM) shall:

040401. Provide day-to-day management for cultural resources at the installation level, help ensure that all installation activities are in compliance with applicable cultural resources requirements, serve as a liaison between all persons involved in the ICRMP, write the ICRMP or develop its statement of work, and implement the ICRMP.

040402. Understand the military mission, and have a clear understanding of how their job supports the military mission.

040403. Locate, inventory, evaluate, and protect historic buildings; structures; districts; archaeological sites; resources of traditional, religious, or cultural significance to American Indian tribes or NHOs; properties listed on the World Heritage List or host nation equivalent to the NRHP; and other cultural resources in accordance with Marine Corps policy and federal statutes and

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regulations. If survey and evaluation tasks are contracted to cultural resources professionals, prepare statements of work, monitor work progress, and review all work products prior to submission to external stakeholders.

040404. Disseminate technical guidance regarding maintenance, storage, and protection of cultural resources to installation personnel whose actions have the potential to affect cultural resources.

040405. Coordinate the maintenance of cultural resources records in the appropriate data management systems to assure that accurate information regarding Marine Corps cultural resources can be provided to Congress, the Marine Corps Deputy FPO, and other interested parties when required.

040406. As the CG/CO's delegated representative, coordinate and consult with outside entities, including the SHPO, American Indian tribes and NHOs, and local interest groups, as mandated in References (d), (i), (l), (p), (z), and other laws and regulations listed in paragraphs 0201 and 0202 of this Volume.

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“FEDERAL STATUTES, FEDERAL REGULATIONS, EXECUTIVE ORDERS, AND DOD POLICIES”

SUMMARY OF SUBSTANTIVE CHANGES

Hyperlinks are denoted by *bold, italic, blue and underlined font*.

The original publication date of this Marine Corps Order (MCO) Volume (right header) will not change unless/until a full revision of the MCO has been conducted.

All Volume changes denoted in blue font will reset to black font upon a full revision of this Volume.

CHAPTER VERSION	PAGE PARAGRAPH	SUMMARY OF SUBSTANTIVE CHANGES	DATE OF CHANGE

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APPENDIX A FEDERAL STATUTES, FEDERAL REGULATIONS, EXECUTIVE ORDERS, AND DOD POLICIES

1 FEDERAL STATUTES

This policy tiers off of the policies for cultural resources management outlined in DoD Instruction 4715.16, “Cultural Resources Management,” and Secretary of the Navy Instruction (SECNAV Instruction) 4000.35A, “Department of the Navy Cultural Resources Program.” In addition, this policy incorporates the provisions of the following federal legislation, Executive Orders (E.O.s), Department of Defense (DoD) regulations, and guidance, as appropriate to the management of cultural resources under the purview of the Marine Corps. (Only federal statutes b, j, and l apply to overseas installations).

a. National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. 4321 et seq.

This Act ensures that environmental factors are given the same consideration as other factors in decision making by federal agencies. NEPA mandates that all federal agencies consider the environmental effects of, and any alternatives to, all proposals for major federal actions that significantly affect the quality of the human environment. The Act also established the Council of Environmental Quality in the Executive Office of the President.

b. National Historic Preservation Act (NHPA) of 1966, as Amended (54 U.S.C. §100101, §300101-307108 or Section 1 of the National Historic Preservation Act, Public Law 89-665, as amended by Public Law 96-515)

This Act provides for the nomination, identification (through listing on the National Register of Historic Places (NRHP)), and protection of historical and cultural properties of significance. The Act establishes specific procedures for compliance, including initial review authority by the cognizant State Historic Protection Officer.

c. Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), 25 U.S.C. 3001 et seq.

This Act requires federal agencies to establish procedures for identifying Native American groups associated with cultural items on federal lands, to inventory human remains and funerary objects in federal possession, and to return such items upon request to affiliated groups. The Act also requires that any discoveries of cultural items covered by this statute shall be reported to the head of the cognizant federal entity, who will notify the appropriate Native American tribe or organization and cease activity in the area of discovery for at least 30 days.

d. Archeological Resources Protection Act (ARPA) of 1979, as amended, 16 U.S.C. §470aa-mm

This Act prohibits the removal, sale, receipt, and interstate transportation of archaeological resources obtained illegally (without permits) from public or Native American lands and authorizes

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agency permit procedures for investigations of archaeological resources on public lands under the agency's control. Public Law 100-555 amended the ARPA to require the Secretaries of the Interior, Agriculture, and Defense (1) to develop plans for surveying the lands under their control to determine the nature and extent of archaeological resources, and (2) to prepare a schedule for surveying those lands that are likely to contain the most scientifically valuable archaeological resources.

e. American Indian Religious Freedom Act, 42 U.S.C. §1996 and §1996a

This Act states the policy of the United States to protect and preserve for Native Americans their inherent rights of freedom to believe, express, and exercise the traditional religions of Native Americans, Eskimos, Aleuts, and Native Hawaiians. These rights include, but are not limited to, access to sites, use and possession of sacred objects, and the freedom to worship through ceremony and traditional rites.

f. Antiquities Act of 1906, 54 U.S.C. §§320301-320303

This Act provides for the protection of historic and prehistoric ruins and objects of antiquity on federal lands and for the authorized scientific investigation of antiquities on federal lands, subject to permits and other regulatory requirements.

g. Abandoned Shipwreck Act of 1987, 43 U.S.C. §§2101-2106

This Act specifies that any wreck that lies embedded within a state's submerged lands is property of that state and subject to that state's jurisdiction if the wreck is determined as being abandoned.

h. Archeological and Historic Data Preservation Act of 1974 (16 U.S.C. §469-469cc)

This Act directs federal agencies to notify the Secretary of the Interior when any federal construction project of a federally licensed activity or program may cause irreparable loss or destruction of significant scientific, prehistoric, historic, or archaeological data. The Act also provides a mechanism for funding the protection of historic and archaeological data.

i. Cooperative Agreements for Management of Cultural Resources, 10 U.S.C. §2684

This subchapter of the U.S. Code states that the Secretary of Defense or the Secretary of a military department may enter into a cooperative agreement with a state or local government or other entity for the preservation, management, maintenance, and improvement of cultural resources located on a site authorized by subsection (b) and for the conduct of research regarding the cultural resources. Activities under the cooperative agreement shall be subject to the availability of funds to carry out the cooperative agreement.

j. Federal Records Act of 1950, 44 U.S.C. §3101

According to the Federal Records Act of 1950, the head of each federal agency shall make and preserve records containing adequate and proper documentation of the organization, functions,

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policies, decisions, procedures, and essential transactions of the agency and designed to furnish the information necessary to protect the legal and financial rights of the Government and of persons directly affected by the agency's activities.

k. Historic Sites Act of 1935, 54 U.S.C. §§102303-102304, §309101, §§320101-320106

This Act lists national historic sites and sets forth federal policy to preserve historic and prehistoric properties of national significance. The Act enables the Secretary of the Interior to protect nationally significant historic resources and includes the authority to establish and acquire nationally significant sites.

l. Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict, concluded on May 14, 1954 (Treaty Doc. 106-1(A)) [Congressional Record, September 25, 2008, page S9555]

This international treaty requires its signatories to protect cultural property in war. Under the Hague Convention, immovable and moveable cultural property “including monuments of architecture, art, archaeological sites, manuscripts, books and other objects of artistic, historical or archaeological interest” are protected to ensure the cultural legacy and by extension the cultural property of, nations, groups and distinct members of a society worldwide, facing armed conflict.

2 FEDERAL REGULATIONS

Only regulation n applies to overseas installations.

a. 32 CFR Part 187

32 CFR Part 187 provides policy and procedures to enable DoD officials to be informed and take account of environmental considerations when authorizing or approving certain major federal actions that do significant harm to the environment of places outside the United States. Its sole objective is to establish internal procedures to achieve this purpose, and nothing in it shall be construed to create a cause of action.

b. 32 CFR 229

The regulations in this part implement provisions of the Archaeological Resources Protection Act of 1979, as amended by establishing the uniform definitions, standards, and procedures to be followed by all Federal land managers in providing protection for archaeological resources, located on public lands and Indian lands of the United States. These regulations enable Federal land managers to protect archaeological resources, taking into consideration provisions of the American Indian Religious Freedom Act through permits authorizing excavation and/or removal of archaeological resources, through civil penalties for unauthorized excavation and/or removal, through provisions for the preservation of archaeological resource collections and data, and through provisions for ensuring confidentiality of information about archaeological resources when disclosure would threaten the archaeological resources.

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c. 36 CFR 60

36 CFR 60 regulates the NHPA and set forth the procedural requirements for listing properties on the NRHP.

d. 36 CFR 61

The qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. In some cases, additional areas or levels of expertise may be needed, depending on the complexity of the task and the nature of the historic properties involved.

e. 36 CFR 63

These regulations have been developed to assist federal agencies in identifying and evaluating the eligibility of properties for inclusion in the NRHP.

f. 36 CFR 65

The purpose of the National Historic Landmarks Program is to identify and designate National Historic Landmarks, and encourage the long range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States. These regulations set forth the criteria for establishing national significance and the procedures used by the Department of the Interior for conducting the National Historic Landmarks Program.

g. 36 CFR 66

36 CFR 66 was designed to preserve significant historical and archeological data from loss or destruction, to include any unexpected archeological resources discovered as a result of a federal construction project or federally licensed activity or program.

h. 36 CFR 67, Section 7

36 CFR 67, Section 7 focuses on “certified historic structures” as defined by the Internal Revenue Service Code of 1986. These regulations are used in the Preservation Tax Incentives Program.

i. 36 CFR 68

The intent of this part is to set forth standards for the treatment of historic properties containing standards for preservation, rehabilitation, restoration, and reconstruction. These standards apply to all proposed grant-in-aid development projects assisted through the National Historic Preservation Fund.

j. 36 CFR 78

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Section 110 of the NHPA, sets forth certain responsibilities of federal agencies in carrying out the purposes of the NHPA. Subsection 110(j) authorizes the Secretary of the Interior to promulgate regulations under which the requirements in section 110 may be waived in whole or in part in the event of a major natural disaster or an imminent threat to the national security. Waiver of responsibilities under section 110 does not affect an agency's section 106 responsibilities for taking into account the effects of emergency activities on properties included in or eligible for the NRHP and for affording the Advisory Council on Historic Preservation an opportunity to comment on such activities.

k. 36 CFR 79

36 CFR 79 establish definitions, standards, procedures and guidelines to be followed by federal agencies to preserve collections of prehistoric and historic material remains, and associated records, recovered under the authority of the Antiquities Act (16 U.S.C. §§431-433), the Reservoir Salvage Act (16 U.S.C. §469-469c), section 110 of the NHPA (16 U.S.C. §470h-2) or the Archaeological Resources Protection Act (16 U.S.C. §470aa-mm).

l. 36 CFR 800

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Council a reasonable opportunity to comment on such undertakings. The procedures in this part define how federal agencies meet these statutory responsibilities. The section 106 process seeks to accommodate historic preservation concerns with the needs of federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

m. 40 CFR 1500-1508

40 CFR 1500-1508 are the procedural provisions of NEPA that were published by the Council on Environmental Quality (CEQ).

n. 43 CFR 3

43 CFR 3 regulations that jurisdiction over ruins, archeological sites, historic and prehistoric monuments and structures, objects of antiquity, historic landmarks, and other objects of historic and scientific interest, shall be exercised under the act by the respective Departments as (a) by the Secretary of Agriculture over lands within the exterior limits of forest reserves; (a) by the Secretary of the Army over lands within the exterior limits of military reservations; and (c) by the Secretary of the Interior over all other lands owned or controlled by the Government of the United States, provided, the Secretaries of the Army and Agriculture may by agreement cooperate with the Secretary of the Interior in the supervision of such monuments and objects covered by the Act of June 8, 1906 (34 Stat. 225; 16 U.S.C. §§431-433), as may be located on lands near or adjacent to forest reserves and military reservations, respectively.

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o. 43 CFR 10

These regulations develop a systematic process for determining the rights of lineal descendants and Indian tribes and Native Hawaiian organizations to certain Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony with which they are affiliated.

3 EXECUTIVE ORDERS

E.O.s b, c, and d do not apply to overseas installations.

a. E.O. 11593, “Protection and Enhancement of the Cultural Environment,” May 13, 1971

This E.O. directs federal agencies to provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the Nation; to ensure the preservation of cultural resources; to locate, inventory, and nominate to the NRHP all properties under their control that meet the criteria for nomination; and to ensure that cultural resources are not inadvertently damaged, destroyed, or transferred before the completion of inventories and evaluation for the NRHP.

b. E.O. 13006, “Locating Federal Facilities on Historic Properties in our Nation’s Central Cities,” May 21, 1996

This Order states that locating Federal Facilities on Historic Properties in Our Nations Central Cities, subject to the Rural Development Act and Executive Order 12072, requires that first consideration be given to locate federal facilities in historic buildings and districts within central business areas when operationally appropriate and economically prudent. It also directs federal agencies to remove regulatory barriers, review their policies, and build new partnerships with the goal of enhancing participation in the National Historic Preservation Program.

c. E.O. 13007, “Indian Sacred Sites,” May 24, 1996

This Order is designed to protect and preserve Indian religious practices, this EO directs each federal agency that manages federal lands to “(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites.” This EO also directs each federal agency to report to the President on “procedures implemented or proposed to facilitate with appropriate Indian tribes and religious leaders.” Several EM sites and facilities are located on Tribal aboriginal and treaty lands. Staff at these facilities work with the Tribes to allow Tribal members safe access to DOE sites for Tribal cultural/religious purposes.

d. E.O. 13175, “Consultation and Coordination with Indian Tribal Governments,” November 6, 2000

The objective of this Order is to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications,

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to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes.

e. E.O. 13287, “Preserve America,” March 3, 2003

This Order underlines the policy of the federal government to provide leadership in preserving America’s heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the federal government, and by promoting intergovernmental cooperation and partnerships for the preservation and use of historic properties.

f. E.O. 13327, “Federal Real Property Asset Management,” February 6, 2004

This Order underlines the policy of the United States to promote the efficient and economical use of America’s real property assets and to assure management accountability for implementing federal real property management reforms. Based on this policy, executive branch departments and agencies shall recognize the importance of real property resources through increased management attention, the establishment of clear goals and objectives, improved policies and levels of accountability, and other appropriate action.

g. E.O. 13693, “Planning for Federal Sustainability in the Next Decade,” March 19, 2015

This Order has a goal to maintain Federal leadership in sustainability and greenhouse gas emission reductions. It revoked E.O. 13423 and E.O. 13514. This E.O. continues the policy of the United States that agencies shall increase efficiency and improve their environmental performance to help protect the planet for future generations and save taxpayer dollars through avoided energy costs and increased efficiency, while also making Federal facilities more resilient. To improve environmental performance and Federal sustainability, the E.O. states that priority should first be placed on reducing energy use and cost, then on finding renewable or alternative energy solutions. The E.O. sets goals for greenhouse gas emissions and for sustainability, including energy conservation, clean energy, renewable energy, alternative energy, water use efficiency, potable water consumption, fleet efficiency, building efficiency, sustainable acquisition, waste and pollution prevention, performance contracts, and electronics stewardship.

4 FEDERAL GUIDANCE

a. 48 FR 22716

The Secretary of the Interior's Professional Qualification Standards describe the minimum educational and professional experience requirements in history, archeology (historic or prehistoric), architectural history, architecture and historic architecture required to perform identification, evaluation, registration, and treatment activities.

b. 53 FR 4742

Guidelines for Federal Agency Responsibilities, Under Section 110 of the National Historic Preservation Act states that (1) the heads of all federal agencies shall assume responsibility for the

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preservation of historic properties which are owned or controlled by such agency. (2) Each federal agency shall establish (unless exempted pursuant to Section 214), in consultation with the Secretary, a preservation program for the identification, evaluation, and nomination to the NRHP, and protection of historic properties.

c. 62 FR 33707

The Secretary of the Interior's Proposed Historic Preservation Professional Qualification Standards were developed by the National Park Service to ensure that a consistent level of expertise would be applied nationally to the identification, evaluation, documentation, registration, treatment, and interpretation of historic and archeological resources.

5 DEPARTMENT OF DEFENSE (DOD) POLICY

Only items b, d, and j apply to overseas installations.

a. DoD Instruction 4710.02 "DoD Interactions with Federally-Recognized Tribes,"
September 14, 2006

This Instruction underlines the DoD policy to (1) Meet its responsibilities to tribes as derived from federal trust doctrine, treaties, and agreements between the United States Government and tribal governments, and to comply with federal statutes, regulations, Presidential Memorandums, and Executive Orders governing DoD interactions with tribes. (2) Build stable and enduring government-to-government relations with federally recognized tribal governments in a manner that sustains the DoD mission and minimizes effects on protected tribal resources. (3) Fully integrate, down to staff officers and civilian officials at the installation level, the principles and practices of meaningful consultation and communication with tribes. (4) Take into consideration the significance that tribes ascribe to protected tribal resources on protected lands.

b. DoD Instruction 4710.03 "Consultation Policy with Native Hawaiian Organizations,"
October 25, 2011

This established the policy and assigned the responsibilities for DoD consultations with Native Hawaiian Organizations when proposing actions that may affect a property or place of traditional religious and cultural importance to Native Hawaiian Organizations.

c. DoD Minimum Antiterrorism Standards for Buildings (UFC 4-010-01)

This UFC stipulates that each military service will ensure that antiterrorism (AT) protective features be incorporated into planning, design and execution of all facility construction to mitigate AT vulnerabilities and terrorist threats. In addition, 10 U.S.C. §2859 required the Secretary of Defense to develop common guidance and criteria to be used to develop construction standards designed to reduce the vulnerability to terrorist attack and to improve the security of the occupants of those structures. This UFC is intended to meet those requirements. In accordance with DoD Instruction 2000.16, all DoD Components will fully comply with this UFC.

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d. SECNAV Instruction 11010.14A, “Department of the Navy Policy for Consultation with Federally Recognized Indian Tribes.” October 11, 2005

This instruction stresses that it is DON policy to consult with representatives of federally recognized Tribal Governments as provided by law on all issues impacting Indian lands, protected tribal resources or rights under treaties, and issues of concern to Tribal Governments on DON lands; conduct consultation on a government-to-government basis in recognition of Tribal Government sovereignty; conduct consultation openly and in good faith, using written, electronic, telephonic and face-to-face consultation formats, as appropriate; initiate consultation at the earliest possible juncture in the planning process and retain final decision-making authority over DON assets and actions; protect culturally sensitive information from public disclosure, including Freedom of Information Act exemptions, and withholding sensitive information from written summaries and transcripts; and consult with non-federally recognized Indian tribes, traditional cultural leaders and other Native Americans on the same basis as other interested parties when particular statutes and regulations require such consultation.

e. SECNAV M 5210.1, “Department of the Navy Records Management Program Records Management Manual.” November 16, 2007

This manual establishes policies and procedures for life-cycle management (creation, maintenance, use and disposition) of DON records. This manual provides guidelines and procedures for the proper administration of a records management program. It also contains all DON records disposition schedules approved by the National Archives and Records Administration.

f. Nationwide Programmatic Memorandum of Agreement (MOA) among the United States Department of Defense, the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers (Concerning World War II Temporary Buildings)

DoD, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers signed a Programmatic MOA, completing the Section 106 review process for a program of demolition of the remaining World War II-era temporary military buildings (For the purposes of the Programmatic MOA, this includes all temporary buildings built between 1939 and 1946 on military property).

g. Program Comment for Wherry and Capehart Era Family Housing at Air Force and Navy Bases

This Program Comment, adopted pursuant to 36 CFR 800.14(e), demonstrates Air Force and Navy compliance with their responsibilities under Section 106 of the National Historic Preservation Act with regard to the following actions in the management of the Wherry and Capehart Era family housing: maintenance, repair, layaway, mothballing, privatization and transfer out of federal agency ownership, substantial alteration through renovation, demolition, and demolition and replacement of Wherry and Capehart Era housing, associated structures and landscape features that may be eligible for listing on the NRHP.

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h. Program Comment: DoD Cold War-Era Unaccompanied Personnel Housing

This Program Comment provides DoD, and its Military Departments with an alternative way to comply with their responsibilities under Section 106 of the NHPA with regard to the effect of the following management actions on Cold War Era Unaccompanied Personnel Housing that may be listed or eligible for listing on the NRHP: ongoing operations, maintenance and repair, rehabilitation, renovation, mothballing, cessation of maintenance, new construction, demolition, deconstruction and salvage, remediation activities, and transfer, sale, lease, and closure of such facilities.

i. Program Comment: DoD World War II- and Cold War-Era Ammunition Storage Facilities

This Program Comment provides the DoD and its Military Departments with an alternative way to comply with their responsibilities under Section 106 of the National Historic Preservation Act with regard to the effect of the following management actions on World War II and Cold War Era ammunition storage facilities that may be eligible for listing on the NRHP: ongoing operations, maintenance and repair, rehabilitation, renovation, mothballing, cessation of maintenance, new construction, demolition, deconstruction and salvage, remediation activities, and transfer, sale, lease, and closure of such facilities.

j. DoD Instruction 4715.5 “Overseas Environmental Baseline Guidance Document,” November 1, 2013

This guide provides criteria, standards, and management practices for environmental compliance at DoD installations overseas. The primary purpose of this Guide is to provide criteria and management practices to be used by DoD Environmental Executive Agents in determining Final Governing Standards (FGS) in accordance with DoD Instruction 4715.5, "Management of Environmental Compliance at Overseas Installations". This Guide also establishes standards for environmental compliance at DoD installations in countries for which no FGS have been established.

Appendix 6.

CCO 5090.4L

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UNITED STATES MARINE CORPS
MARINE CORPS AIR GROUND TASK FORCE TRAINING COMMAND
MARINE CORPS AIR GROUND COMBAT CENTER
BOX 788100
TWENTYNINE PALMS, CALIFORNIA 92278-8100

CCO 5090.1G
ISD 12

APR 17 2019

COMBAT CENTER ORDER 5090.1G

From: Commanding General
To: Distribution List

Subj: ENVIRONMENTAL PROTECTION

Ref: (a) DoD Instruction 4715.03
(b) MCO 5090.2
(c) MAGTF/TC, MCAGCC Environmental Protection Instruction Manual

1. Situation. The Marine Air Ground Task Force Training Command (MAGTF/TC), Marine Corps Air Ground Combat Center (MCAGCC) shall operate in an environmentally sound manner and comply with applicable environmental statutes and regulations.
2. Cancellation. CCO 5090.1F.
3. Mission. To implement Department of Defense instruction on conservation and protection of natural resources, reference (a), Marine Corps policies and responsibilities for environmental compliance and protection, reference (b), and establish local policies and procedures per reference (c). All personnel aboard MAGTF/TC, MCAGCC will strictly adhere to the guidance and instructions set forth in the references, to ensure environmental regulatory compliance.
4. Execution
 - a. Commander's Intent and Concept of Operations

(1) Commander's Intent. The Combat Center is committed to applying sound environmental management practices to our command's resources, ensuring responsible environmental stewardship of resources entrusted to us, and continually improving these procedures to strengthen our training mission; therefore, Commanding Officers (COs), Assistant Chiefs of Staff (ACs/S), Division Directors (DivDirs), Special Staff Officers, Officers-in-Charge (OICs), and contractors training and operating aboard the Combat Center shall comply with the provisions of this Order.

(2) Concept of Operations

(a) References (a) through (c) set forth the basic regulations, and establish local policies and procedures which govern the management and protection of the Combat Center's environment and its natural and cultural resources.

(b) COs, ACs/S, DivDirs, Special Staff Officers, OICs, and contractors training and operating aboard the Combat Center are responsible for supporting the AC/S Installation Support Directorate in protecting the Combat Center's resources.

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APR 17 2019

b. Subordinate Element Missions(1) COs, ACs/S, DivDirs, Special Staff Officers, OICs, and Contractors

(a) Ensure compliance with this Order, and the references.

(b) Ensure that violations and violators are promptly reported to the Environmental Affairs division.

(c) Ensure that the requirements of the National Environmental Policy Act are completed on actions requiring environmental documentation.

(2) AC/S MAGTF Training Directorate

(a) Ensure that all units training at the Combat Center receive a brief of this Order, and are familiar with its contents prior to utilizing training areas and ranges.

(b) Ensure all Combat Center orders and regulations pertaining to range training area standard operating procedures adhere to this Order.

(c) Ensure this order and the listed references are implemented in the planning and development of all operations, the use of range training areas, and training activities aboard the Combat Center.

(3) AC/S Installation Support Directorate

(a) Is responsible for establishing policies and standard operating procedures for the management and protection of the Combat Center's environment, including natural and cultural resources.

(b) Ensure that the MAGTFTC, MCAGCC Environmental Protection Instruction Manual, reference (c) is reviewed annually, comply with higher level directives contained in the references, and are available for units to utilize.

5. Administration and Logistics.

a. All Combat Center Orders and references pertaining to environmental compliance, can be viewed at <https://www.29palms.marines.mil/Staff-offices/Environmental-Affairs/>.

b. Directives issued by this Headquarters are published and distributed electronically. Electronic versions of Combat Center Orders can be found at <https://www.29palms.marines.mil/Staff-Offices/Adjutant-Office/Orders/>.

APR 17 2019

6. Command and Signal

a. Command. This Order is applicable to military personnel, civilian employees, and contractors (incorporated by reference into contract performance requirements) operating aboard the Combat Center.

b. Signal. This Order is effective the date signed.



R. MARTINEZ
Chief of Staff

DISTRBUTION: A

Appendix 7.
RTAA SOP for Cultural Resources

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RTAA SOP Chapter 2

Environmental Procedures

2000. General. The MAGTFTC, MCAGCC ranges and RTAs are heavily used. The ranges and RTA's are also home to legally-protected species, sensitive habitat, and legally-protected historic sites. To successfully achieve training objectives while complying with environmental laws and regulations, it is essential to consider environmental concerns when planning training operations and exercises. Training units shall adhere to the provisions contained in this chapter as well as all applicable environmental directives.

2001. Environmental Constraints Applicable to all Training Activities.

1. General. Training areas and land use restrictions must be considered in operational staff planning, while hazardous material and waste management must be considered as a basic logistical requirement. As a rule, material taken into a RTA must be removed from the RTA. The CCO 5090 series of directives provides specific guidance in adherence to these regulations. The following paragraphs highlight significant environmental areas of concern, but do not constitute a comprehensive list of all requirements.

2. Spill Prevention, Containment, and Clean Up.

a. Prevention. Prevention of Petroleum, Oil, and Lubricants (POL) and hazardous material spills with resulting environmental damage is the responsibility of all commanders. The following preventive measures must be taken to reduce the chance of a spill.

(1) Hoses, nozzles, and connections should be checked daily to avoid leakage of fuel. Nozzles and connections will have an impermeable liner under each of them.

(2) Refueler operators shall stay with the vehicle during refueling.

(3) Any vehicles with known leaks and all refuelers must be parked over a leak proof tarp or other appropriate material in order to catch leaks that may occur. Tanker vehicles shall be parked in such a manner as to avoid the possibility of spilled fuel entering natural or man-made drainage systems.

Vehicles will have an impermeable liner under them during refueling. This will facilitate any clean up that the unit may have to perform.

(4) All generators, lighting systems, and other equipment prone to leaks must have containment berms and liners beneath them.

b. Containment and Clean Up. Affected units shall provide personnel and equipment support for spill containment and clean up. Dumping of hazardous materials (e.g. fuel, oil, acids, paint, etc.) is prohibited. In the event of a spill or discharge of a hazardous substance, the following reporting procedures are required:

(1) One to Four Gallons, Mainside and Camp Wilson. Units will coordinate with their Environmental Compliance Coordinator (ECC) internally for proper clean-up.

(2) More than Four Gallons, Mainside and Camp Wilson. Contact Environmental Affairs (EA) Abatement Section at (760) 407-9841. The Abatement Chief will direct clean-up and fill out an Environmental Discharge Report. No digging will start at Camp Wilson or Expeditionary Airfield (EAF) before clearance from the Public Works Division (PWD) is obtained.

(3) 55 Gallons or more, Mainside and Camp Wilson. Contact Center Fire directly at (760) 830-3333.

(4) Spills in training areas, regardless of quantity. Contact Range Control (BEARMAT) who will contact EA. Do not begin digging in any training area without clearance.

(5) All units will coordinate with Hazardous Waste Accumulation Area (HWAA) at (760) 830-7244 to set up Point of Generation (POG) sites.

(6) Units at Camp Wilson performing maintenance or other operations will use appropriate drums at the Points of Generation (POG) site to contain all waste. POG sites will be set up by HWAA personnel and serviced every 72 hours. Transfer containers will be labeled "Used Oil", "Used Antifreeze", etc.

(7) Unused Meals-Ready-to-Eat (MRE) heaters are to be treated as hazardous waste (HAZWASTE) and not thrown into dumpsters. The reactive agent in the heater that causes water to boil is HAZWASTE. If unused, turn these items into the Solid Waste (Trash) Disposal area adjacent to the Camp Wilson chow hall. There are drums within this facility for the collection of unused MRE heaters. However, used/activated MRE heaters can be disposed of as regular trash.

(8) Lithium batteries may vent if they are exposed to too much heat or liquids. Keep out of direct sunlight if possible. Do not get the batteries wet, as they will react violently to water and may explode. Do not vent used or new batteries; turn them into hazardous material (HAZMAT) personnel at the POGs for proper handling, or transport to the Hazardous Waste Management Branch (HWMB), Building 2095, Rifle Range Road for proper disposal. (ALL BATTERIES ARE CONSIDERED HAZARDOUS WASTE IN CALIFORNIA).

(9) Pentachlorophenol contaminated wood, or "P" wood is a hazardous waste that is used in many wooden ammo crates. This wood must be turned into the Hazardous Waste Management Branch, Building 2095, Rifle Range Road for disposal.

(10) Do not leave HAZMAT in the field or at the 10th Street wash racks. At no time is anyone allowed to dump HAZMAT down any wash rack drains. Remember, every Marine is responsible for the proper handling of hazardous material and hazardous waste. Do not improperly dispose of waste or abandon a spill in the RTAs or Camp Wilson. If there are questions that arise contact the HWMB at (760)830-7244/7695.

(11) Criminal penalties, including fines and incarceration, exist for intentionally, knowingly or recklessly transporting, storing or disposing of hazardous waste in a manner that places another individual in imminent danger of death or serious bodily injury.

3. Holes, Trenches and Training Excavations. Units shall inspect and backfill their holes, trenches, and other training excavations before clearing the RTA. Units shall inspect their excavations for desert tortoises before backfilling. If desert tortoises are found within any excavations, contact BEARMAT to request a biological monitor to remove the animal. Backfilling shall return excavations to the most natural state practicable. Units using stationary machinery or motorized, mechanical equipment to excavate or backfill will use extreme caution to reduce the effects of mission-related impacts on the desert tortoise.

4. Graffiti. Graffiti and other markings are prohibited. Absolutely no graffiti is allowed in or on any portion of the natural environment including, but not limited to, rocks, or trees; or on any man-made surface or object, including, but not limited to, targets, buildings, etc.

2002. Restricted and Limited-Use Areas.

1. Purpose. The purposes of Restricted Areas (RA) are conservation of natural and cultural resources, protection of drinking water infrastructure, and personnel safety. These areas are off-limits to all personnel and all entry, except for travel through the area on established MSRs. Exceptions must be authorized by BEARMAT and EA, and are generally limited to activities that further the stated purpose of the RA. (All grid points below connect to form a polygon around the restricted or limited-use areas.)

2. Water Systems Project. No unauthorized entry is allowed into the Water Systems Project located in the Sand Hill RTA. This is a no-entry area. This area supplies water to MAGTFTC, MCAGCC. The water pipes, pumps, and electrical wires in this area may be easily damaged.

3. Exercise Support Base (ESB) Settling Pools. Although no longer being utilized, the ESB settling pools are located in the vicinity of grid 11SNT78399716. Sewage lines connecting the ESB and the pools are buried in a line between grids 11SNT78319736 and 11SNT78479565. To protect the pools and sewage lines, an area enclosed by grids 11SNT78329575, 11SNT78319760, 11SNT78889760, and 11SNT78589551 is established as a no-entry, no-maneuver area by wheeled or tracked vehicles.

4. Historically Significant Sites. Federal, state, and DoD laws, rules, and regulations prohibit the collection or sale of artifacts, excavation of archeological sites, or other damages to artifacts or sites. Prosecution can result in fines and criminal penalties. It is unauthorized for any personnel to climb on, deface (paint, chip, add graffiti), or in any way damage or destroy archeological and other cultural resources.

a. The Foxtrot Petroglyph Site is a National-Register listed historical property, located in the Restricted Area in the southeast corner of the Lava RTA, and is protected by Federal law. The site is a Special Use Category 1 Area enclosed by grids 11SNU966100 to 11SPU010100 to 11SPU010098 to 11SPU006096 to 11SNU988091 to 11SNU974091 to 11SNU966095. Movement through the Foxtrot Petroglyph Site is restricted to established MSRs. No cross-country travel, live fire, or bivouac is allowed in this area.

b. The Surprise Spring Archaeological District is located at grids 11SNT710958 to 11SNT720958 to 11SNT710948 to 11SNT720948 within the Water System Project Area in the Sand Hill RTA. The area is off-limits to all personnel, and all entry, to include infantry, vehicle maneuver, and recreation is prohibited.

c. The Deadman Lake Cultural Resource Management Area (DLCRMA) is a Special Use Category 1 Area situated in the dune area between the Forward Ammunition Supply Point, Camp Wilson, and the Deadman Lake playa at grids 11SNT7828399900 to 11SNT7830799790 to 11SNT7879599305 to 11SNT7923698696 to 11SNT7956698017 to 11SNT7984497449 to 11SNT7995197100 to 11SNT8115496102 to 11SNT8112394943 to 11SNT8090795014 to 11SNT7994295013 to 11SNT7937495614 to 11SNT7955396020 to 11SNT7900196360 to 11SNT7894497005 to 11SNT7864596993 to 11SNT7649997541 to 11SNT7605098085 to 11SNT7654498636 to 11SNU7649900000. The DLCRMA includes archeological sites or site loci located on fragile dune structures susceptible to damage by vehicular traffic or other field activities. Movement through the DLCRMA is restricted to established MSRs, marked by red carbonite posts or four-strand barbed wire fences. No cross-country travel, live-fire, or bivouac is allowed in this area.

d. The Lavic Lake Archeological District is a Special Use Area Category 1 located on the lava flow in the northwestern Lavic Lake training area.

Restricted area 1 is located at grid 11SNU589397 to 11SNU593397 to 11SNU593387 to 11SNU610387 to 11SNU610389 to 11SNU617389 to 11SNU617384 to 11SNU616383 to 11SNU616378 to 11SNU 614377 to 11SNU590377 to 11SNU589378.

Restricted area 2 is located at grid 11SNU603421 to 11SNU614421 to 11SNU614407 to 11SNU610407 to 11SNU608408 to 11SNU605413 to 11SNU601413 to 11SNU601418 to 11SNU603418. The Lavic Lake Archeological District is of great archeological significance and is being preserved for study and evaluation. Movement through the Lavic Lake Archeological District is restricted to established MSRs. No cross-country travel, live-fire, or bivouac is allowed in this area.

e. The Crystal Mine site is a Special Use Category 1 Area situated on the northeast corner of the Ames Dry Lake playa in the eastern end of the small range of hills along the north edge of the playa at grids 11SNU057209155, 11SNU6065309153, 11SNU6069709111, 11SNU6060509014, and 11SNU6055309122. The Crystal Mine Site is of great archeological significance and is being preserved for study and evaluation and includes an area of approximately three acres. No cross-country travel, live/non-live-fire, maneuver, or bivouac is allowed in this area. Movement within the vicinity of the Crystal Mine site is restricted to the established adjacent MSR.

5. Sand Hill Restricted Area. The Sand Hill Restricted Area (Desert Tortoise Nesting Area) is located at grids 11SNT643974 to 11SNT649983 to 11SNT687984 to 11SNT704988 to 11SNT711979 to 11SNT712970 to 11SNT721961 to 11SNT760981 to 11SNT765975 to 11SNT723951 to 11SNT723948 to 11SNT718945 to 11SNT714946 to 11SNT709943 to 11SNT704943 to 11SNT665902 to 11SNT645902 to 11SNT645966 to 643974 to 650983 within the Sand Hill RTA. This area also encompasses the sole source of drinkable water for MAGTFTC, MCAGCC. Movement through this area is restricted to established MSRs. No cross-country travel, live/non-live-fire, maneuver, or bivouac is allowed in this area.

6. Areas of Reported Desert Tortoise Activity. Protection of the threatened desert tortoise is of utmost concern to MAGTFTC, MCAGCC and measures are being taken to ensure protection of the tortoise. Local Natural Resources personnel will ensure that all units that use MAGTFTC, MCAGCC for training adhere to the rules and regulations protecting the tortoise. The following locations have been designated as tortoise study plots and are off limits to all live-fire and maneuver:

a. Emerson Lake. Grids: 11SNU550060, 11SNU550050, 11SNU560060, 11SNU560050.

b. Bullion. Grids: 11SPT070989, 11SPT069956, 11SPT119989, 11SPT138974, 11SPT148957.

2003. Police of the RTA's.

1. General. It is the responsibility of the officer conducting the exercise (OCE)/Commanding Officer (CO)/OIC to ensure the RTA used by their units has been properly policed. Units shall remove all items they bring into the RTA.

2. Range Residue.

a. Range residue includes small arms range residue (primarily spent ammunition and cartridge casings) and training range residue (primarily training ordnance, including projectiles, missiles, rockets, bombs, grenades, flares, signals, smokes, and tear gas). Ammunition or ordnance-derived material includes non-explosive items found at small arms and training ranges such as bandoleers, metal links and clips, ammunition boxes. This may also include nonmetal items, such as firing tubes (fiberglass, etc.), cardboard, Styrofoam packaging material and wood boxes. All solid waste to include MRE trash will be taken to the solid waste collection site, adjacent to the Camp Wilson chow hall.

b. All units will turn in brass, ammo residue, packing, and boxes to the RSB located at the lot adjacent to building 2096 on Rifle Range Road. Do not dispose of these materials in the garbage bins.

(1) The Range Sustainment Branch (RSB) will be operational during normal working hours Monday through Friday except holidays, and with prior notification from units with specific requirements, operating hours maybe adjusted by special request. For further information contact (760)830-0302 (answering machine, leave your name, unit, phone number, and a brief message). RSB personnel will contact you as soon as possible.

(2) All turn-ins will be conducted by no less than two individuals representing the organization. Due to the amount of unfired ammo coming into the RSB yard during turn-ins it is required that an Ammo Tech, Aviation Ordnance Tech or SNCO be present during turn-ins. This allows the RSB personnel to return any "live" items so they can then be turned back into the Center Magazine Area. Two personnel will supervise off loading and sign the required certificates.

3. Solid Waste and Recyclable Disposal.

a. Garbage shall not be buried or burned. Dispose of all trash and recyclable materials at the Solid Waste Disposal Site located adjacent to the Camp Wilson chow hall. Ensure trash is placed in the appropriate containers and the containers are closed after use.

b. Recyclable material will be turned into the RSB. Recyclables will not be disposed of in the landfill.

c. Hazardous material will be disposed of per references (k) and (l) of CCO 3500.4_. (<https://www.29palms.marines.mil/Staff-Offices/Adjutant-Office/Orders/>) The Integrated Contingency Operations Plan and other helpful documents can be found in their entirety on the EA Homepage link of the MAGTFTC, MCAGCC website (<https://www.29palms.marines.mil/Staff->

Appendix 8
Table of Cultural Resource Reports

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Appendix 8

ACC#	Report #	Date	Authors	Title	Prepared by	Type	Digital	Other/Comme	Sites
	ABR001	1974	Ritter, EW	An Evaluation of Cultural Resources within the East Bullion Mountains, San Bernardino County, California	BLM	SURV		Off-base, now within base boundaries	
	ABR002	1976	Ables, CK	Letter Report: Archeological Survey of Surprise Springs	MAGTFTC	OTHR		Memorandum of Record	
	ABR003	1976	Ables, CK	Letter Report: Archeological Survey - Petroglyph Site	MAGTFTC	OTHR		Memorandum of Record	
	ABR004	1983	Storneeta, S & RG Elston	The Archaeological Reconnaissance of Five Geothermal Drill Locations and One Access Route on the USMC Training Base, Twentynine Palms, California	Intermountain Research, Silver City, NV	SURV		Federal Antiquities Act Permit: 80-CA-108	
	ABR005	1984	Sutton, MQ	An Archaeological Assessment of 54 Acres of Land on the Marine Corps Base, 29 Palms, San Bernardino County, California	Archaeological Research Unit, University of California, Riverside, CA	SURV			
	ABR006	1985	Padon, B	A Preliminary Archaeological Review of the Expeditionary Airfield Project, Twentynine Palms, California	Cultural Resources Division, LSA, Newport Beach, CA	SURV			
	ABR007	1990	White, RS	An Archaeological Assessment of the Gateway Specific Plan No. 5, City of Twentynine Palms, San Bernardino County, California	Archaeological Associates, Ltd., Sun City, CA	SURV			
	ABR008	1990	Austin, C.	Letter Report: Archaeological Survey for Proposed Geothermal Well Sites	Geothermal Program Office, Public Works Department	SURV			

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ABR009	1992 Brock, J.	Archeological Assessment for the Fire Fighter Training Facility, Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, California	Woodward-Clyde, San Diego, CA	SURV	Project No. 480
ABR010	1993 Alter	Gross, GT, M. Robbins-Wade & RC Cultural Resources Assessment of the Non-Potable Water System Improvements and Recreation Complex, at MCAGCC, Twentynine Palms, San Bernardino County, California	Affinis, El Cajon, CA	SURV	
ABR011	1995 Cottrell, MG	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: 552; Photo-Voltaic System	NREA	SURV	
ABR012	1995 Cottrell, MG	Cultural Resources Survey: Proposed Strafe Scoring System and Weapons Impact Scoring System Projects, MCAGCC, Twentynine Palms, California	NREA	SURV	
ABR013	1996 Cottrell, MG	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: Range Road Detour Realignment	NREA	SURV	
ABR014	1996 Cottrell	Prehoda, VE & MG Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: P-589; MCX Warehouse Construction	NREA	SURV	

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ABR015	1996 Cottrell	Prehoda, VE & MG Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: Geothermal Test Drilling	NREA	SURV	
ABR016	1996 Cottrell, MG	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: Expeditionary Support Detachment (ESD) Parking Lot Expansion and Construction of 13th Street	NREA	SURV	
ABR017	1996 Dibble, S & R. Perry	Archeological Survey of Area Proposed for Installation of Potable Water Transmission Pipeline at MCAGCC, Twentynine Palms, San Bernardino County	US Army Corps of Engineers, Los Angeles, CA	SURV	Memorandum of Record
ABR018	1996 Cottrell, MG	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: Exercise Olympic Thunder	NREA	SURV	
ABR019	1996 McLean, R & R Perry	Archeological Survey and Archival Study of Approximately 1010 Acres of the Sand Hill Training Area for the MCAGCC, Twentynine Palms, San Bernardino County, California	US Army Corps of Engineers, Los Angeles, CA	SURV	
ABR020	1997 Hatoff, B	Archeological Resource Survey Report: Twentynine Palms Borrow Study	Woodward-Clyde International Americas, Oakland, CA	SURV	

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ABR021	1997	Cottrell, MG	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: Target Arrays - Lavic Lake Training Area	NREA	SURV	
ABR022	1997	Shroth, A et al	MCAGCC Twentynine Palms, Family Housing Site Feasibility Study	Gallegos and Associates	SURV	sections/ excerpts from main report
ABR023	1998	Doan, UK & MG Cottrell	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: EOD Training Site - East and Range Training Areas	NREA	SURV	
ABR024	1998	Cottrell, MG et al	A Newly Recorded Rock Art Site aboard the MCAGCC, Twentynine Palms, California (Cleghorn Training Area)	NREA	OTHR	
ABR025	1998	Doan, UK & MG Cottrell	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: SCIGN Seismic Monitoring Station-Sunshine Peak Training Area	NREA	SURV	
ABR026	1998	Doan, UK & MG Cottrell	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: Relocation of Arming Helicopter Pads, West Training Area	NREA	SURV	

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ABR027	1998	Doan, UK & MG Cottrell	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: Forward Logistics Base for Tactical Exercises - East Training Area	NREA	SURV
ABR028	1999	Doan, UK & MG Cottrell	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: Proposed Fuel Facility and Industrial Complex, Mainside	NREA	SURV
ABR029	1999	Cottrell, MG & UK Doan	Cultural Resources Survey: Proposed Forward Logistics Base (FLB) Cleghorn Pass, MCAGCC, Twentynine Palms, California	NREA	SURV
ABR030	1999	Brewer, HCL & MG Cottrell	Cultural Resources Inventory of 300 Acres in the Restricted Area Portion of Sand Hill Training Area at the MCAGCC, Twentynine Palms, San Bernardino County, California	NREA	SURV
ABR031	2000	Doan, UK & MG Cottrell	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: Shuttle Radar Reflector Panels	NREA	SURV
ABR032	2000	Doan, UK & MG Cottrell	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: LMS Dust Collectors	NREA	SURV

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ABR033	Doan, UK & 2000 MG Cottrell	Archaeological Resources Survey Report Proposed Marine Fight Positions, Emerson Lake Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California. Project:	NREA	SURV
ABR034	2000 Cottrell, MG	Archeological Resource Survey Report, Abbreviated Form, MCAGCC, Twentynine Palms, San Bernardino County, California. Project: New Wastewater Treatment Plant/ EAF	NREA	SURV
ABR035	Doan, UK & 2000 MG Cottrell	Archaeological Survey of 626 Acres within the Restricted Area of Sand Hill Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California	NREA	SURV
ABR036	Doan, UK & 2001 MG Cottrell	Archaeological Resources Survey Report Proposed Forward Logistics Operations Center, Noble Pass Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR037	Doan, UK & 2001 MG Cottrell	Archaeological Resources Survey Report Proposed Tank Hulks Delta Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR038	Doan, UK & 2001 MG Cottrell	Archaeological Resources Survey Report Proposed Tank Targets and Obstacle, Emerson Lake Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV

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ABR039	2001	Doan, UK & MG Cottrell	Archaeological Resources Survey Report Proposed Road Construction Project, Sand Hill Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR040	2002	Doan, UK & MG Cottrell	Archaeological Resources Survey Report Proposed Target Arrays, Quakenbush and Lavic Lake Training Areas, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR041	2002	Doan, UK & MG Cottrell	Archaeological Resources Survey Report Proposed Geotechnical Feasibility Assessment - EAF, Sand Hill and West Training Areas, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR042	2002	Doan, UK & MG Cottrell	Archaeological Resources Survey Report Proposed Cattle Fence and Berm - Lear Ave/ Base Boundary, West Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR043	2002	Robbins-Wade, M	Letter Report: Archeological Survey for 7.1 mW Cogeneration Plant and Gas Pipeline	Affinis, El Cajon, CA	SURV
ABR044	2002	Doan, UK & MG Cottrell	Archaeological Resources Survey Report Ammunition Storage Facilities (P-683), Range Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV

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ABR045	2002	Doan, UK & MG Cottrell	Archaeological Resources Survey Report Range 400 Culvert and Bypass Road, Cleghorn Pass Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR046	2002	Doan, UK & MG Cottrell	Archaeological Resources Survey Report Culvert and Bypass Road, Prospect Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR047	2002	Cottrell, MG	Archaeological Resources Survey Report Solar Photovoltaic System, Mainside, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR048	2002	Doan, UK & MG Cottrell	Archeological Survey Report, Non-Potable Water Well Project, Range Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California	NREA	SURV
ABR049	2003	Doan, UK & MG Cottrell	Archaeological Survey of 15.5 Acres in Sunshine Peak Training Area, MCAGCC, Twentynine Palms, California	NREA	SURV
ABR050	2003	Tyree, KD	Archeological Resources Survey Report, Range 106 Enhancements, Range Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR051	2003	Tyree, KD	Archeological Resources Survey Report, Range 110 Enhancements, Range Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV

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ABR052	2003 Tyree, KD	Archaeological Resources Survey Report, Rifle Range Enhancements EA, Rifle Range Complex, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR053	2003 Hale, JP	Archeological Resources Survey Report, Boresight and Zero (BZO) Target Array, Cleghorn Pass Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR054	2004 Hale, JP	Archeological Resources Survey Report, Trapped Wave Seismic Study, Rainbow Canyon, Noble Pass, Quackenbush and Gypsum Ridge Training Areas	NREA	SURV
ABR055	2004 Tyree, KD	Archeological Resources Survey Report, Rehabilitation of Training Trenches (Alternative Range 400), Delta Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California.	NREA	SURV
ABR056	2004 Hale, JP	Archeological Resources Survey Report, Military Operations in Urban Terrain (MOUT) Sites Project, Buillion, Prospect and East Training Areas	NREA	SURV
ABR057	2004 Hale, JP	Archeological Resources Survey Report, Range 500 Upgrades, Cleghorn Pass Training Areas	NREA	SURV
ABR058	2004 Hale, JP & M McDonald	Archeological Resources Survey Report, Bureau of Land Management, Access Roads Right-of-Way Project, MCAGCC, Twentynine Palms, San Bernardino County, California	NREA	SURV

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ABR059	2004	Hale, JP	Archeological Resources Survey Report, Military Operations in Urban Terrain (MOUT) Sites Expansion Project, East Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California	NREA	SURV	
ABR060	2004	Hale, JP	Archeological Resources Survey Report, Stability and Support Operations (SASO) Training Facility, East Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California	NREA	SURV	
ABR061	2005	Cassidy, JD	Archeological Resources Survey Report, Utility Corridor, Mega-MOUT Project, Lead Mountain Training Area, MCAGCC, Twentynine Palms, San Bernardino County, California	NREA	SURV	
ABR062	2005	McDonald, M	National Register of Historic Places Evaluation of CA-SBR-12010H and CA-SBR-12011H, MCAGCC, Twentynine Palms, California	NREA	EVAL	
ABR063	2005	McDonald, M	Archeological Resources Survey Report. Proposed Desert Tortoise Captive Rearing Facility. Sand Hill Training Area. Marine Corps Air Ground Combat Center. Twentynine Palms. California	NREA	SURV	yes
ABR064	2005	Cassidy, JD	Archeological Resources Survey Report. Range-210 Storage Container. Lead Mountain Training Area. Marine Corps Air Ground Combat Center. Twentynin& Palms. California	NREA	SURV	yes

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ABR065	2005 Cassidy, JD	Archeological Resources Survey Report for the Firm Base Project and R-215A Assault Breaching Lane, East Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	NREA	SURV	yes
ABR066	2005 Cassidy, JD	National Register of Historic Places Evaluation of CA-SBR-12048, CA-SBR-12049 and CA-SBR-12050, Quackenbush Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	NREA	EVAL	yes
ABR067	2006 Cassidy, JD	Archeological Survey of 204 Acres in Sand Hill Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms. San Bernardino County, California	NREA	SURV	yes
ABR068	2006 Cassidy, JD	Direct Assault Course (DAC) Lead Mountain and Bullion Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms. San Bernardino County, California	NREA	SURV	yes
ABR069	2006 Cassidy, JD	Range 630 Indirect Fire Complex (IIFC) Quackenbush Training Area Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR070	2006 Cassidy, JD	Archeological Survey of 638 Acres in East Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes

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ABR071	2006 Cassidy, JD	Archeological Survey of 489 Acres in the Sand Hill Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR072	2006 Cassidy, JD	Fifty-seven Acre Archeological Survey of Proposed Utility Corridors in the Mainside. Range. and West Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR073	2006 Cassidy, JD	Archeological Survey of Seven Acres in the Sand Hill Training Area for the Repair of 20-inch Water Main Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR074	2006 Cassidy, JD	Archeological Survey of 214 Acres in the West Training Area for the Combat Vehicle Operator Course, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR075	2006 Cassidy, JD	All Archeological Survey of Seven Acres for the Communication and Data Directorate Storage and Staging Site and Office Trailers Placement in the Mainside Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes

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ABR076	2006 Cassidy, JD	Archeological Survey of 37 Acres for the Direct Assault Complex (DAC) Expansion in the Bullion Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR077	2006 Cassidy, JD	Archeological Survey of 10 Acres for the WARTEC Support to the Intelligence Technology Innovation Center in America Mine Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR078	2006 Cassidy, JD	An Archeological Survey of Six Acres for the Consolidated Emergency Response Center Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR079	2007 Cassidy, JD	Archeological Survey of 25 Acres for the Improvised Explosive Device Training Facility in the West Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR080	2007 Cassidy, JD	An Archeological Survey of 31 Acres for Range 630 Target Corridor Expansion, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes

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ABR081	2007 Cassidy, JD	An Archeological Survey of 72 Acres for the 1st Tanks Forward Operating Base and Command Outpost in the Emerson Lake Training Area Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR082	2009 Cassidy	Hale, JP, A Julin, & JD An Archeological Survey of 497 Acres in the Mainside Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR083	2007 Hale, JP	Archeological Survey of 8.8 Acres for a Proposed Potable Water Line in Ocotillo Housing in the Mainside Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR084	2008 Cottrell, MG	An Archeological Survey of 2.47 Acres for the Advisor Training Group, Combat Outposts in the Gypsum Ridge and Quackenbush Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR085	2007 Hale, JP	Archeological Survey of 8.8 Acres for a Proposed Potable Water Line in Ocotillo Housing in the Mainside Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR086					no report?

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ABR087	2008	Hale, JP	An Archeological Survey of 45 Acres in the Delta Training Area for a Military Operations in Urban Terrain (MOUT) Training Facility, Marine Corps Air Ground Combat Center, Twentynine Palms, California	NREA	SURV	yes
ABR088	2009	Hale, JP, & A Julin	An Archeological Survey of 203 Acres of the Quackenbush North PRTSS for the MV-22 Testing in the Quackenbush Training Areas Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA; Northland Research Inc., Flagstaff, AZ	SURV	yes
ABR089	2009	Hale, JP	An Archeological Survey of 23 Acres for the Tank Hull Down Positions and Berm Construction in the Emerson Lake Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR090	2009	Cottrell, MG, JP Hale & A Julin	Cultural Resources Overview, Records Search and Surveys for the Thirteen (13) Predesignated Range Training Support Sites Considered for Future Landing Zones for the MV-22	NREA; Northland Research Inc., Flagstaff, AZ	SURV	yes
ABR091	2009	Glover, LC & JP Hale	An Archeological Survey of Three Landing Zones at Ranges 400 & 410, Cleghorn Pass Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes

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ABR092	2009	Glover Chamberlain, N, JP Hales & LC	An Archeological Survey of 204 Acres for Pre-Designated Defense Sites for Enhanced Mojave Viper OEF Training in the Lava and Lead Mountain Training areas Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR093	2009	Glover, LC & N Chamberlain	An Archeological Survey of a Proposed MSR Route in the East Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR094	2009	Glover, LC & N Chamberlain	An Archeological Survey of a Proposed Forward Air Re-supply Point (FARP) in the Prospect Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR095	2009	Glover, LC & N Chamberlain	An Archeological Survey for the Proposed Rhino Charge 09.2 Waste Water Equipment Testing Site in the America Mine Training Area Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR096	2009	Glover Chamberlain, N & LC	An Archeological Survey for Proposed Enhanced Mojave Viper Air Combat Element Targets Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes

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ABR097	2009	Glover Chamberlain, N & LC	An Archeological Survey for Replacement of the Rifle Range Water Tank and Fill Line Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR098	2009	Julin, A	An Archeological Survey of 14.2 Acres for the Logistic Support Element Marines Vehicle Recovery Training, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR099	2009	Hale, JP, & Chamberlain	An Archeological Survey of 16.6 Acres for Geothermal Drilling in the West Training Area Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR100	2010	Hale, JP	An Archeological Survey of 35 Acres in the Sand Hill Training Area for the Destruction of the Camp Wilson Federally Owned Treatment Works (FOTW), Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR101	2010	Chamberlain, N	An Archeological Survey for Construction of Tactical Live Fire Airfield at Range 630, Quackenbush Training Area	NREA	SURV	yes
ABR102	2010	Chamberlain, N	An Archeological Survey for Annual Maintenance at Range 630, Quackenbush Training Area	NREA	SURV	yes
ABR103	2010	Hale, JP	Report on an Incident of Graffiti at the Foxtrot Petroglyph Site	NREA	MONT	yes

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ABR104	2011	Hale, JP	Non-Standard Timber Vehicle Bridge, Gypsum Ridge Training Area Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR105	2011	Chamberlain, N	An Archeological Survey for Establishing Training Areas for Aircraft Recovery Operations, Noble Pass Training Area	NREA	SURV	yes
ABR106	2011	Hale, JP	Forward Area Refueling Point (FARP) and Forward Operating Base (FOB), Cleghorn Pass Training Area Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR107	2011	Chamberlain, N	An Archeological Survey for the Construction of the Proposed Ocotillo Marine Mart and Gas Station at Mainside	NREA	SURV	yes
ABR108	2012	Hale, JP	Remedial Investigation and Feasibility Study at Munitions Program Response Site Unexploded Ordnance 01 Central Magazine Area, Mainside, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR109	2012	Hale, JP	Range 215 Building Relocation in Support of Enhanced Mojave Viper, Prospect Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes

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ABR110	2012	Chamberlain, N	Proposed Construction of Adult Medical Care Clinic Replacement	NREA	OVRW	yes
ABR111	2012	Hale, JP	Rotary Wing Aircraft and MV-22 Landing Zones, Noble Pass Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR112	2012	Chamberlain, N	Results of Radiocarbon Samples Submitted to Beta Analytic from 10 Training Areas	NREA	STUD	yes
ABR113	2012	Hale, JP	Target Survey in the Bullion and Lava Training Areas Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR114	2012	Hale, JP	Archeological Survey of 7.5 Acres for a Proposed Fence Line Adjacent to Ocotillo Housing in the Mainside Area	NREA	SURV	yes
ABR115	2013	Chamberlain, N	An Archeological Survey for Forward Operating Base and Access Route at America Mine Training Area	NREA	SURV	yes
ABR116	2013	Hale, JP	An Archeological Survey of 62 Acres in the Delta Training Area for a Rotary Wing and MV-22 Landing Zone, Marine Corps Air Ground Combat Center, Twentynine Palms, California	NREA	SURV	yes
ABR117	2014	Hale, JP	Rock Quarry Project, Mainside Cantonment Area	NREA	SURV	yes
ABR118	2014	Hale, JP	Telephone Aerial Pathway Removal Project, Range Training Area	NREA	SURV	yes

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ABR119	2014	Hale, JP	An Archeological Survey of Three Proposed Targets in the Delta Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	NREA	SURV	yes
ABR120	2014	Hale, JP	An Archeological Survey of Geophysical Testing Plots in the Deadman Sub-Basin, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR121	2014	Hale, JP	An Archeological Survey of the O-35-P Power Line Project in Restricted Area One, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR122	2014	Glover, LC	Border Signs and Gate Installations Along the Boundary of the Exclusive Military Use Area (Johnson Valley) Undertaking	NREA	OVRW	yes
ABR123	2014	Hale, JP	Rotary Wing Aircraft and MV-22 Landing Zones, Gays Pass Training Area Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes
ABR124	2014	Hale, JP	Archeological Survey of 18.5 Acres for Proposed Fence Lines and Security Barriers in the Mainside Area	NREA	SURV	yes
ABR125	2015	Hale, JP	Archeological Survey of 396 Acres for Proposed Photovoltaic Array on the Mesquite Dry Lake Playa in the Mainside Area	NREA	SURV	yes

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ABR126	2015	Hale, JP	An Archaeological Survey of 211 Acres in the Sand Hill Restricted Area for the Installation of Protective Marker Posts	NREA	SURV	yes	
ABR127	2015	Keck Hale, JP & C	Archaeological Survey of Two Proposed Bighorn Sheep Guzzler Locations, in the Gays Pass and Rainbow Canyon Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes	
ABR128	2015	Keck, C	Archeological Survey of a Proposed Bighorn Sheep Guzzler Location, Sunshine Peak Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes	
ABR129	2014	MF Rondeau,	A Fluted Point from the Marine Corps Air Ground Combat Center, San Bernardino County, California	Rondeau Archeological Sacramento, CA	STUD	yes	CalFLUTED Research Report No. 121
ABR130	2016	Kirwan, T	Archaeological Survey of the Proposed Mercy Air Refueling PAD Construction, East Training Area, RTAMS Compound, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes	

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ABR131	2016 Kirwan, T	Archaeological Documentation of One Prehistoric and Four Historic Sites in the Shared Use Area (Means Lake TA) prior to the Marine Corps On Road Convoy, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	MONT	yes	
ABR132	2016 Kirwan, T	Archaeological Documentation of One Prehistoric and Four Historic Sites in the Shared Use Area (Means Lake TA) prior to the Marine Corps On Road Convoy, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	MONT	yes	duplicate report, completed after transfer of lands from BLM to USMC
ABR133	2016 Kirwan, T	Archaeological Documentation of a Cultural Resources Survey on Twenty-three Acres in the Delta Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	yes	
ABR134	2016 Kirwan, T	Archaeological Documentation and Data Recovery of Five Prehistoric Isolates in the Galway Lake Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	DTRY	yes	
ABR135	2017 Kirwan, T	Archaeological Documentation of 1,541 Linear Meters (24 Acres) of the King of Hammer Race Course in the Galway Lake Training Area, Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	SURV	yes	

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ABR136	2017 Kirwan, T	Archaeological Documentation of Proposed Sunshade Construction at Tactical Range 103, Range Training Area, Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	SURV	yes	
ABR137	2017 Kirwan, T	Archaeological Documentation of Proposed Tortoise Translocation Landing Zones Cultural Resources Survey Aboard the Marine Corps Air Ground Combat Center and Portions of Bureau of Land Management Lands, San Bernardino County, Twentynine Palms, California	NREA	SURV	yes	
ABR138	2017 Kirwan, T	Archaeological Investigation and Documentation of Unauthorized Scrapper Activity at CA-SBR-8256H (P36-008256) in Sunshine Peak Training Area Aboard the Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	EVAL	yes	digital copy is incomplete
ABR139	2017 Kirwan, T	Archaeological Investigation, Documentation, and NRHP Evaluation of Five Historic and One Prehistoric Sites Aboard the Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California.	NREA	EVAL	yes	volume I

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ABR140	2017 Kirwan, T	Documentation of Eighteen Archaeological (Ten Prehistoric and Eight Historic) Sites in the Shared Use Area (Means Lake Training Area) Prior to the Marine Corps Large Scale Exercise, Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	MONT/ EVAL	yes	report addendum included
ABR141	2017 Kirwan, T	Archaeological Investigation, Documentation and NRHP Evaluation of Seven Historic Sites Aboard the Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	EVAL	yes	Volume II, Project: N62473-12-D-2012
ABR142	2017 Kirwan, T	Archaeological Survey of Five Well Sites Aboard the Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	EVAL		
ABR143	2017 Kirwan, T	Archaeological Investigation, Documentation, and NRHP Evaluation of Four Historic Sites Aboard the Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	MONT/ EVAL		Volume III, Project: sites 31196H, N62473-12-D-2012 31362H, 31364H, 31366H
ABR144	2017 Kirwan, T	Archaeological Investigation, Documentation, and NRHP Evaluation of Four Historic Sites Aboard the Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	MONT/ EVAL		Volume IV, Project: sites 16508H, N62473-12-D-2012 16520H, 28868H, 28871H

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ABR145	2017 Kirwan, T	Archaeological Investigation, Documentation, and NRHP Evaluation of Two Historic Sites Aboard the Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	MONT/ EVAL	Volume V, Project: N62473-12- sites 12406H, D-2012 12407H
ABR146	2017 Kirwan, T	Archaeological Investigation, Documentation, and NRHP Evaluation of Two Historic Sites Aboard the Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	MONT/ EVAL	Volume VI, Project: N62473-12- sites 16090H, D-2012 16514H
ABR147	2017 Kirwan, T	Archaeological Survey of 23.69 Acres of Land Aboard the Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	SURV	Project: N62473-12- D-2012
ABR148	2017 Kirwan, T	Archaeological Documentation of Four Isolated Finds Bessemer Mine Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	NREA	SURV	Project: N62473-12- D-2012
ABR149	2017 Kirwan, T	An Archaeological Survey and Documentation of 3,715 Linear Feet (0.7 Miles / 17.75 Acres) of Land within the West Training Area, Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	SURV	Project: N62473-12- D-2012

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ABR150	2017 Kirwan, T	An Archaeological Survey and Documentation of 10.89 Acres of Land within the East Training Area, Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	SURV	Project: N62473-12-D-2012
ABR151	2018 Kirwan, T	Archaeological Investigation, Documentation, and NRHP Evaluation of Five Prehistoric Sites Aboard the Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	NREA	MONT/ EVAL yes	Project: N62473-12-D-2012

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ACC#	Report #	Date	Authors	Title	Prepared by	Type	Volumes	Digital	Paleo	Needs Concurrence
2002.002	CRR001	1977	Fenenga, F. & Murray, J	A Preliminary Survey of the Archaeological Resources of the US Marine Corps at Twentynine Palms, San Bernardino County, CA	California State University, Long Beach, CA	SURV		yes		
	CRR002	1979	McCarthy, DF	The Fox Trot Rock Art CA-SBR-161 Twentynine Marine Corps Base, San Bernardino County	Riverside, CA	OTHR		yes		
	CRR003	1987	Farrell, N	Cultural Resources Assessment of Twentynine Palms, Marine Corps Air Ground Combat Center (MCAGCC)	US Army Corps of Engineers, Los Angeles, CA District	ORVW		yes		
	CRR004	1990	Altschul, JH	Prehistoric Adaptation to a Desert Spring Environment: Archaeological Investigations of Sunrise Spring, San Bernardino County, CA	Statistical Research, Inc., Tucson, CA	SURV/ EVAL		yes		
	CRR005	1991	Schaefer, J. & Palette, D	Prehistoric and Historic Land Use and Settlement Patterns at Lavic Lake, Twentynine Palms MCAGCC, San Bernardino County, CA	Brian F Mooney and Associates, San Diego, CA	SURV		yes		
	CRR006	1992	Shackley, MS	Prehistoric Hunter-Gatherer Land Use on the Northeastern Portion of the MCAGCC, Twentynine Palms, CA	Brian F Mooney and Associates, San Diego, CA	SURV	a, b	yes		
	CRR007	1992	Hedges, K & D Hamann	A Rock Art Inventory of the Foxtrot Petroglyph Site, CA SBr-161	Brian F Mooney and Associates, San Diego, CA	SURV		yes		
	CRR008	1993	Pignolo, AR, KC Crawford & M Mealey	Draft Phase I Historic Properties Inventory of Alternatives for the MCAS Tustin Relocation, MCAGCC Twentynine Palms, San Bernardino County, California	Ogden Environmental and Energy Services, San Diego, CA	SURV	a, b	yes		

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2003.006	CRR009	1994	Cook, JR & DF McCarthy	Cultural Resources Assessment of Several Small Parcels at Mainside, MCAGCC Twentynine Palms, San Bernardino County, California	Brian F Mooney and Associates, San Diego, CA	SURV		yes
	CRR010	1994	Robbins-Wade, M, Gross, TG & RC Alter	Environmental Assessment Anti-Armor Tracking and Live Fire Range MILCON P-506, MCAGCC Twentynine Palms, San Bernardino County, California		SURV		yes
	CRR011	1994	Robbins-Wade, M, Gross, TG & RC Alter	Cultural Resources Inventory of MILCON Projects P- 506, P-507, and P-508, at MCAGCC, Twentynine Palms, San Bernardino County, CA	Affinis, El Cajon, CA	SURV	a, b	yes
	CRR012	1994	Robbins-Wade, M, Gross, TG & RC Alter	Applications of Sparse Lithic Scatter Procedure for MILCON P-507 Multipurpose Machine Gun Range, MCAGCC, Twentynine Palms, San Bernardino County, CA	Affinis, El Cajon, CA	EVAL		yes
	CRR013	1994	Robbins-Wade, M, Gross, TG & RC Alter	Cultural Resource Inventory of MILCON Project P-508 (Revised Location), MCAGCC Twentynine Palms, CA	Affinis, El Cajon, CA	SURV		yes
	CRR014	1994	McDonald, M. & McCarthy, DF	Prehistoric and Historic Land Use of the Pisgah Crater Lava Flows and Lavic Lake Area, MCAGCC San Bernardino County, CA--Volume I	Brian F Mooney and Associates, San Diego, CA	SURV	a, b, c	yes
	CRR015	1995	Cottrell, MG	Cultural Resources Survey Proposed Field Ammunition Supply Point (FASP), MCAGCC Twentynine Palms, CA	NREA	SURV		yes
	CRR016	1996	Hawk, MG & GN Peters	Environmental Assessment Proposed Field Ammunition Supply Point (FASP), MCAGCC Twentynine Palms, San Bernardino County, California	NREA	SURV		yes
	CRR017	1996	Dibble, S	Environmental Assessment of Potable Water Transmission Pipeline, MCAGCC Twentynine Palms, San Bernardino County, California	MCAGCC, Twentynine Palms, CA; Corps of Engineers, Los Angeles, CA	SURV		yes
CRR018	1996	Robbins-Wade, M & Gross, TG	Environmental Assessment P-542, MOUT Assault Course, MCAGCC Twentynine Palms, San Bernardino County, California	NAVFAC Southwest, San Diego, CA	SURV		yes	

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2003.009	CRR019	1996	Schaefer, J. & Duffield-Stoll, A	Archaeology and History of Mining at Twentynine Palms MCAGCC, San Bernardino County, CA	Brian F Mooney and Associates, San Diego, CA	SURV			yes
	CRR020	1996	Prehoda, VE & MG Cottrell	Cultural Resources Survey Proposed PM10 Monitoring Sites, MCAGCC Twentynine Palms, San Bernardino County, California	NREA	SURV			yes
	CRR021	1996	Schaefer, J. & Schultze, CA	Prehistoric Sites and Settlement Pattern in the Quackenbush Lake and Gypsum Ridge Training Areas, MCAGCC San Bernardino County, CA	ASM Affiliates, Inc., Encinitas, CA	SURV			yes
	CRR022	1996	McDonald, M. & McCarthy, DF	Evaluation of Prehistoric Resources at Pisgah Crater Lava Flows and Lavic Lake, MCAGCC, San Bernardino County, CA	ASM Affiliates, Inc., Encinitas, CA	EVAL			yes
	CRR023	1997	Hardesty, DL	Survey and Evaluation of Historic Mining Sites at Twentynine Palms MCAGCC, San Bernardino County, CA	Department of Anthropology, University of Nevada Reno	SURV/ EVAL			yes
2004.006	CRR024	1997	Wagner, HM	Paleontologic Resource Assessment and the Results of the Initial Field Survey of the MCAGCC, MCAGCC Twentynine Palms, San Bernardino County, California	Wagner & Associates, Westwood, CA	OTHR		yes	yes
	CRR025	1997	Bloom, DM & SA Beck	Environmental Assessment Industrial Stormwater Control Rifle Range Area Marine Corps Air Ground Combat Center Twentynine Palms, California Project TP-9744MS	Ninyo & Moore Geotechnical and Environmental Sciences Consultants San Diego, CA	SURV			yes

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CRR026	1997	Basgall, ME & Giambastiani, MA	Cultural Resources Survey of the Wood Canyon Locality, Gypsum Ridge Training Area, MCAGCC Twentynine Palms, C--Miscellaneous Report of Investigations No.140	Archaeological Research Center, California State University, Sacramento; Geo-Marine Inc.; Plano, TX	SURV	a, b	yes
CRR027	1997	Richman, JR & Bethard, KR	Archaeological Survey of an 1056 Acre Portion of the Sandhill and Gypsum Ridge Training Areas, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	SURV		yes
CRR028	1997	Cottrell, MG	Cultural Resources Survey Proposed DESFIREX Firing Positions, Marine Corps Air Ground Combat Center Twentynine Palms San Bernardino County California		SURV		yes
CRR029	1997	Giambastiani, MA & Basgall, ME	Cultural Resources Survey of a Portion of the Lava Training Area, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento; Geo-Marine Inc.; Plano, TX	SURV		yes
CRR030	1997	Flenniken, JJ	Experimental Heat Treatment and Scanning Electron Microscope Analysis of Marine Corps Air Ground Combat Center (MCAGCC) Jasper, Twentynine Palms, California	Lithics Analysts, Inc., Pullman, WA	OTHR		yes
CRR031	1997	Marx, DE	Borrow Site Identification Study Environmental Assessment Marine Corps Air Ground Combat Center, Twentynine Palms, CA	Woodward & Clyde, San Diego, CA	SURV		yes
CRR032	1997		Environmental Assessment: Expeditionary Airfield/Exercise Support Base, MCAGCC, CA	EDAW	SURV		yes

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CRR033	1997	Padgett, A	Re-Integration of Graffiti at the Foxtrot Petroglyph Site, CA-SBr-161		OTHR	yes
CRR034	1998	Bethard, KR, Giambastiani, MA & Basgall, ME	Archaeological Survey of an 1801 Acre Portion of the Sandhill Training Area, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	SURV/ EVAL	a, b yes
CRR035	1998	Giambastiani, MA & Basgall, ME	An Archaeological Survey of 741 Acres at the Wood Canyon Locality, Gypsum Ridge Training Area, MCAGCC Twentynine Palms, CA Volume I Technical Report	Archaeological Research Center, California State University, Sacramento	SURV	a, b yes
CRR036	1998	Richman, JR, Basgall, ME & Giambastiani, MA	Archaeological Survey of Portions of Mainside and the Sandhill, Gypsum Ridge, and Range Training Areas, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	SURV	a, b yes
CRR037	1998	Hall, MC & Schultze, CA	Archaeological Survey of 6968 Acres in Delta East, Emerson Lake, and Gypsum Ridge Training Areas, MCAGCC Twentynine Palms, CA Volume I	Archaeological Research Unit, University of California, Riverside, CA	SURV	a-h yes
CRR038	1998	Basgall, ME, Giambastiani, MA & KR. Bethard	Cultural Resources Inventory of 8933 Acres in the Cleghorn Pass, Noble Pass, Lava, and Quackenbush Lake Training Areas, MCAGCC, Twentynine Palms, California	Archaeological Research Center, California State University, Sacramento	SURV	a, b, c, d yes
CRR039	1998	Giles, R & Hardesty, DL	Data Recovery at Four Historic Mining Sites at Twentynine Palms MCAGCC, San Bernardino County, CA	Department of Anthropology, University of Nevada Reno	DREC	yes

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CRR040	1998	Obermayr, R & Zeanah, D	Cultural Resource Inventory of 3045 Acres in the East, Noble Pass, Delta, and Cleghorn Pass Training Areas, MCAGCC Twentynine Palms, CA	Intermountain Research, Silver City, NV	SURV	a, b	yes
CRR041	1998	Giambastiani, MA, Bethard, KR & Basgall, ME	Cultural Resources Inventory of 943 Acres at Deadman Lake, Gypsum Ridge, and Sandhill Training Areas, MCAGCC, Twentynine Palms, California	Archaeological Research Center, California State University, Sacramento	SURV	a, b	yes
CRR042	1998	Dosh, SG	Cultural Resources Inventory: Portions of the Acorn and Emerson lake Training Areas, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b	yes
CRR043	1998	McDonald, M & DF McCarthy	Rock Features, Quarrying, Rock Art, and Other Prehistoric Activities at the Pisgah Crater Lava Flow in the Mojave Desert	ASM Affiliates, Inc., Carlsbad, CA	OTHR		yes
CRR044	1998	Glover, LC & Glover, DW	Cultural Resources Inventory of Approximately 2734 Acres: America Mine, Lead Mountain, and Rainbow Canyon Training Areas, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	SURV	a, b	yes
CRR045	1998	Basgall, ME	Salvage Excavation of an Isolated Hearth Feature at the Surprise Spring (CA-SBR-424) Site Complex, Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL		yes
CRR046	1998	McGuire, KR	Test Evaluations at Four Prehistoric Sites Located in the Lava Training Area, MCAGCC Twentynine Palms, CA	FWARG, Davis, CA; COMPA Industries, Inc., Albuquerque, NM	EVAL		yes

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2003.005	CRR047	1998	Dean, JC	Graffiti Reintegration Treatment Record: Foxtrot Petroglyph Site (CA-SBR-161 B), Marine Corps Air Ground Combat Center, Twentynine Palms, California	Dean & Associates Conservation Services, Portland, OR	OTHR	yes
	CRR048	1999	Glover, LC & Glover, DW	Cultural Resources Inventory of Approximately 1900 Acres: Rainbow Canyon and Blacktop Training Areas MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	SURV	a, b yes
	CRR049	1999	Glover, LC & Glover, DW	Cultural Resources Inventory of Approximately 2730 Acres: Maumee Mine and Gypsum Ridge Training Areas, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	SURV	a, b yes
	CRR050	1999	Dosh, SG	Archaeological Investigations, MCAGCC: Cultural Inventory of 4204 Acres within the Acorn Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
	CRR051	1999	Jones and Stokes Associates, Inc.	Cultural Resource Inventory of 4317 Acres in the Acorn, Gypsum Ridge, Emerson lake, and Quackenbush Training Areas at the MCAGCC Twentynine Palms, San Bernardino County, CA	Jones and Stokes Associates, Inc., Sacramento, CA	SURV	a, b yes
	CRR052	1999	Giambastiani, MA & Basgall, ME	An Evaluation of Eighteen Archaeological Sites at Wood Canyon, Quackenbush Lake Training Area, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
	CRR053	2000	Hart, DR & Hardesty, DL	National Register Evaluation of Ten Historic Mining Sites at Twentynine Palms MCAGCC San Bernardino County, CA	Department of Anthropology, University of Nevada Reno	EVAL	yes

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2003.002	CRR054	2000	Flenniken, JJ	Infield, On-Site, Technological Analysis of Flaked Stone Artifacts on the Surface of Fourteen Lithic Debitage Dominated Sites and Laboratory Analysis of CA-SBR-9565: MCAGCC Twentynine Palms, CA	Lithics Analysts, Inc., Pullman, WA	OTHR		yes
	CRR055	2000	Basgall, ME	Evaluation of Five Archaeological Sites in the Acorn and Quackenbush Lake Training Areas, MCAGCCM Twentynine Palms, California	Archaeological Research Center, California State University, Sacramento	EVAL	a, b	yes
	CRR056	2000	Basgall, ME, Giambastiani, MA & Kenneth, B	Evaluation on Nine Archaeological Sites in the Deadman Lake Basin , MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL		yes
	CRR057	2000	McDonald, M	Archaeological Inventory of 992 Acres, Lavic Lake and Cleghorn Pass Training Areas, MCAGCC San Bernardino County, CA	SWCA, Inc. Environmental Consultants, Tucson, AZ	SURV	a, b	yes
	CRR058	2000	Hall, MC	Archaeological Survey of 2472 Acres in Adjacent Portions of Lava, Lead Mountain, Cleghorn Pass Training Areas, MCAGCC Twentynine Palms, CA	Archaeological Research Unit, University of California, Riverside, CA	SURV	a, b	yes
2004.008	CRR059	2000	Basgall, ME, Giambastiani, MA	Archaeological Evaluation of Thirteen Locations in the Deadman Lake Basin, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL		yes

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2002.001	CRR060	2000	Basgall, ME, Giambastiani, MA & KR. Bethard	An Archaeological Evaluation of Eighteen Locations in the Deadman Lake Basin, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL		yes
	CRR061	2000	Dosh, SG	Archaeological Investigations, MCAGCC: A Cultural Inventory of 5661 Acres within the Black Top, Rainbow Canyon, Lavic Lake, and Gays Pass Training Areas, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b	yes
	CRR062	2000	Dean, JC	Graffiti Reintegration Treatment Record, January 2000: Foxtrot Petroglyph Site (CA-SBR-161B), Marine Corps Air Ground Combat Center, Twentynine Palms, California	Dean & Associates Conservation Services, Portland, OR	OTHR		yes
	CRR063	2001	Jones and Stokes Associates, Inc.	National Register of Historic Places Evaluation of the Surprise Spring Site (CA-SBR-424/H) Historic Component, Marine Air Ground Task Force Training Command, San Bernardino County, CA	Associates, Inc., Sacramento, CA	EVAL		yes
	CRR064	2001	Flenniken, JJ, SL Williams & JT Rasic	Evaluation of Geology and Lithic Technology at the Cleghorn Pass Quarry Site, CA-SBR-9085 in the Cleghorn Pass Training Area, MCAGCC Twentynine Palms, CA	Lithics Analysts, Inc., Pullman, WA	OTHR		yes
	CRR065	2001	Dosh, SG	Cultural Resources Inventory of 8546 Acres in Emerson lake, Acorn, and Lead Mountain Training Areas, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b	yes
	CRR066	2001	Tiley, S	Cultural Resources Inventory of Approximately 1860 Acres in the Gypsum Ridge and West Training Areas Marine Corps Air Ground Combat Center, Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	SURV		yes

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2004.004	CRR067	2001	Dean, JC	Graffiti Reintegration Treatment Record, January 2001: Foxtrot Petroglyph Site (CA-SBR-161B), Marine Corps Air Ground Combat Center, Twentynine Palms, California	Dean & Associates Conservation Services, Portland, OR	OTHR	yes	
	CRR068	2001	Zyniecki, M	Cultural Resources Inventory of 7511 Acres within the Lead Mountain Training Area, Marine Air Ground Task Force Training Command at MCAGCC Twentynine Palms, Ca	Northland Research, Inc., Flagstaff, AZ	SURV	a, b	yes
	CRR069	2001	Tiley, S	Cultural Resources Inventory of 1500 Acres in the Bullion Training Area, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	SURV		yes
	CRR070	2001	Dosh, SG	Cultural Resources Inventory of 4942 Acres in Various Training Areas on MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV		yes
	CRR071	2001	Dosh, SG	Evaluation of Seven Archaeological Sites in the Acorn Training Area, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	EVAL		yes
	CRR072	2001	Rhode, D	Woodrat Midden Evidence of Holocene Paleoenvironmental Change at Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, San Bernardino County, California		OTHR		yes
	CRR073	2001	Wagner, HM	Results of Paleontological Resource Assessment, 1997-2000 of the MCAGCC, Twentynine Palms, CA	Wagner & Associates, Lemon Grove, CA	OTHR	yes	yes
	CRR074	2002	Basgall, ME, Johnson, L & Hale, M	An Evaluation of Four Archaeological Sites in the Lead Mountain Training Area, Marine Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA (CA-SBR-9414 ; SBR-9415 ; SBR-9420 ; SBR-9422)	Archaeological Research Center, California State University, Sacramento	EVAL		yes

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CRR075	2002	Dosh, SG	Cultural Resources Inventory of 4967 Acres in the Black Top, Lavic Lake, and Sunshine Peak Training Areas MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b	yes
CRR076	2002	Kuehn, DD	Late Quaternary Stratigraphy and Geoarchaeology at Emerson Lake, MCAGCC, San Bernardino County, California: A View from the Southern Margin	David Kuehn Consulting EI Paso, Texas	OTHR		yes
CRR077	2002	Dosh, SG	Cultural Resources Inventory of 4448 Acres in the Black Top Training Area, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b	yes
CRR078	2002	Zyniecki, M	Cultural Resources Inventory of 2515 Acres within the Bullion and Maumee Mine Training Areas, Marine Corps Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b	yes
CRR079	2002	Robbins-Wade, M & Gross, TG	Cultural Resources Inventory for the Proposed Enhancements to the Expeditionary Airfield, MCAGCC, Twentynine Palms, CA	The Environmental Company, Inc., Solana Beach, CA	SURV		yes
CRR080	2002	Hall, MC	Archaeology of Seven Prehistoric Sites Near Emerson lake, MCAGCC Twentynine Palms, CA	Archaeological Research Unit, University of California, Riverside, CA	EVAL		yes
CRR081	2002	Tiley, S, Glover, LC & Martinez, JE	Cultural Resources Inventory of Approximately 1240 Acres in the Sunshine Peak and Prospect Training Areas, Marine Corps Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	SURV		yes
CRR082	2002	Dean, JC	Graffiti Reintegration: Treatment Record, May 2002: Foxtrot Petroglyph Site (CA-SBR-161A), Marine Corps Air Ground Combat Center, Twentynine Palms, California	Dean & Associates Conservation Services, Portland, OR	OTHR		yes

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	CRR083	2003	Woodman, C & Victorino, K	Cultural Resources Inventory of 1482 Acres in Quackenbush Lake Training Area, MCAGCC Twentynine Palms, CA	Science Applications International Corporation, Santa Barbara, CA	SURV	yes
2004.003	CRR084	2003	Basgall, ME, Jurich, DM & Martinez, JE	An Archaeological Evaluation of Site CA-SBR-8945, Delta Training Area, Marine Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
2003.003	CRR085	2003	Basgall, ME	Archaeological Assessment of a Portion of the Surprise Spring (CA-SBR-424, Unit 19) Site Complex, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
2004.004	CRR086	2003	Zeanah, DW, Johnson, L, Overly, SA & Welsh, P	An Evaluation of Four Archaeological Sites in the Lead Mountain Training Area, Marine Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA (CA-SBR-9417 ; SBR-9418 ; SBR-9421 ; SBR-9425)	Archaeological Research Center, California State University, Sacramento	EVAL	yes
2003.008	CRR087	2003	Gross, GT & Robbins-Wade, M	Final Report, Cultural Resources Inventory and Evaluation for the Proposed Airport Surveillance Radar at MCAGCC Twentynine Palms, CA	The Environmental Company, Inc., Bellevue, WA	SURV/ EVAL	yes
	CRR088	2003	Douglas, DL	Class III Archaeological Survey of a 75-Acre Site for the Proposed MCAGCC Landfill Expansion	URS, San Diego, CA	SURV	yes
	CRR089	2003	Flenniken, JJ & Williams, SL	Evaluation of Geology and Lithic Technology at the Noble Pass Jasper Quarry Site, CA-SBR-9078, in the Noble Pass Training Area, MCAGCC Twentynine Palms, CA	Lithics Analysts, Inc., Pullman, WA	OTHR	yes

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2004.001	CRR090	2003	Dean, JC	Graffiti Reintegration Treatment Record, January 2003: Foxtrot Petroglyph Site (CA-SBR-161D), Marine Corps Air Ground Combat Center, Twentynine Palms, California	Dean & Associates Conservation Services, Portland, OR	OTHR	yes
	CRR091	2003	Zyniecki, M	Cultural Resources Inventory of 4626 Acres in the America Mine and Buillion Training Areas, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
	CRR092	2003	Giambastiani, MA, Tinsley, DR & Cannon, AC	An Evaluation of Three Prehistoric Toolstone Quarries in the Black Top Training Area MCAGCC Twentynine Palms, CA	Albion Environmental, Inc., Santa Cruz, CA	EVAL	yes
	CRR093	2003	Dosh, SG	Cultural Resources Inventory of 1498 Acres in Noble Pass Training Area, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b yes
	CRR094	2003	Dosh, SG	Cultural Resources Inventory of 3000 Acres in the Lavic Lake Training Area MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b yes
	CRR095	2003	Dosh, SG	Cultural Resources Inventory of 4400 Acres in Emerson Lake Training Area, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b yes
	CRR096	2003	Zyniecki, M	Cultural Resources Inventory of 2998 Acres in the Lead Mountain Training Area, Marine Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
	CRR097	2003	Zyniecki, M	Cultural Resources Inventory of 1176 Acres in the Cleghorn Pass Training Area, Marine Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
	CRR098	2003	Zyniecki, M	Cultural Resources Inventory of 4650 Acres in the Black Top and Rainbow Canyon Training Areas, Marine Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b yes
	CRR099	2003	Zyniecki, M	Cultural Resources Inventory of 2767 Acres in the Quackenbush Training Area Marine Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b yes

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2004.007	CRR100	2003	Giambastiani, MA	Archaeological Evaluation of Site CA-SBR-10310 in the Lead Mountain Training Area MCAGCC Twentynine Palms, CA	Albion Environmental, Inc., Santa Cruz, CA	EVAL	yes
	CRR101	2004	Basgall, ME	Further Archaeological Assessments in Deadman Lake Basin MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
	CRR102	2004	Flenniken, JJ, Trautman, PJ & Williams, SL	Geology and In-Field, On-Site Technological Analysis of Flaked Stone Artifacts from Sixty-one Segregated Reduction Locations in the Rainbow Canyon Training Area, and Nine Sites in the Noble Pass Training Area MCAGCC Twentynine Palms, CA	Lithics Analysts, Inc., Pullman, WA	OTHR	yes
	CRR103	2004	Zyniecki, M	Cultural Resources Inventory of 1730 Acres in the Emerson Lake Training Area, Marine Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
	CRR104	2004	Dean, JC	Graffiti Reintegration Treatment Report, April 2004: Foxtrot Petroglyph Site (CA-SBR-161), Marine Corps Air Ground Combat Center, Twentynine Palms, California	Dean & Associates Conservation Services, Portland, OR	OTHR	yes
	CRR105	2004	Zyniecki, M	Cultural Resources Inventory of 4322 Acres in the Acorn Training Area, Marine Air Ground Task Force Training Command, MCAGCC	Northland Research, Inc., Flagstaff, AZ	SURV	yes
	CRR106	2004	Dosh, SG	Cultural Resources Inventory of 741 Acres in Sunshine Peak Training Area MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
	CRR107	2004	Dosh, SG	Cultural Resources Inventory of 2224 Acres in Black Top Training Area MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes

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CRR108	2004	Dosh, SG	Cultural Resources Inventory of 4571 Acres in Lavic Lake Training Area, Marine Air Ground Task Force Training Command, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b	yes	
CRR109	2004	Dosh, SG	Cultural Resources Inventory of 4324 Acres in Maumee Mine, Sunshine Peak, and Gays Pass Training Area MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	a, b	yes	
CRR110	2004	McGuire, KR	A Cultural Resources Inventory of 3964 Acres in the Sandhill and America Mine Training Areas, MCAGCC Twentynine Palms, CA	FWARG, Davis, CA; COMPA Industries, Inc., Albuquerque, NM	SURV		yes	
CRR111	2004	Giambastiani, MA	An Evaluation of Nine Prehistoric Toolstone Quarries in the Quackenbush Training Area, Twentynine Palms, San Bernardino County, CA	Albion Environmental, Inc., Santa Cruz, CA	EVAL		yes	
CRR112	2004	Wagner, HM	The Geology, Geologic History, Mineral Resources and Paleontological Resource Assessment of Area 10, West of the Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, San Bernardino County, California	Wagner & Associates, Lemon Grove, CA		OTHR	yes	yes
CRR113	2004	Duke, C and P Tuck	Archaeological Survey Report: Southern California Edison Pole No. 2232702E, Santana Circuit Twentynine Palms Marine Corps Base, San Bernardino County, California	LSA, Riverside, CA	SURV		yes	
CRR114	2005	Basgall, ME & Pierce, W	Archaeological Assessment of Four Prehistoric Sites in the Acorn Training Area, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL		yes	

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CRR115	2005	Basgall, ME, Bethard, KR & Martinez, JE	Archaeological Assessment of Fifteen Prehistoric Sites in the Gypsum Ridge and Quackenbush Lake Training Areas MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
CRR116	2005	Bethard, KR, Basgall, ME & Martinez, JE	Archaeological Assessment of Six Prehistoric Quarry/Workshop Locations in the Gays Pass Training Area MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
CRR117	2005	Basgall, ME	Archaeological Assessment of Two Early Holocene Sites in the Noble Pass Training Area MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
CRR118	2005	Dosh, SG	Cultural Resources Inventory of 1473 Acres in Gypsum Ridge Training Area MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
CRR119	2005	Baksh, M & Hilliard, G	Ethnohistoric and Ethnographic Overview for the MCAGCC Twentynine Palms, CA	Tierra Environmental Services, San Diego, CA	ORVW	yes
CRR120	2005	Dean, JC	Graffiti Reintegration Treatment Report, March, 2005: Foxtrot Petroglyph Site (CA-SBR-161), Marine Corps Air Ground Combat Center, Twentynine Palms, California	Dean & Associates Conservation Services, Portland, OR	OTHR	yes
CRR121	2005	Delacorte, MG	An Evaluation of Archaeological Site CA-SBR-10807 in the Sunshine Peak Training Area MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes

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CRR122	2005	Bethard, KR, Martinez, JE & Zeanah, DW	Cultural Resources Assessment of Seven Sites in the Black Top Training Area and Four Sites in the Lead Mountain Training Area MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL		yes
CRR123	2005	Hart, DC	Cultural Resources Inventory of 7925 Acres in the Lead Mountain Training Area MAGTFTC, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV		yes
CRR124	2005	Hart, DR	Cultural Resources Inventory of 3000 Acres in the Lavic Lake Training Area MAGTFTC, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV		yes
CRR125	2005	Basgall, ME & Overly, SA	Assessment of Three Prehistoric Archaeological Deposits in the Acorn Training Area MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL		yes
CRR126	2005		Cultural Resources Archival and Research Services, Marine Corps Air Ground Combat Center, Twentynine Palms, California	JRP Historical Consulting Services, Davis, CA	ORVW		yes
CRR127	2005	Giambastiani, MA, Hale, MJ & Garnsey, MJ	Archaeological Survey of 1640 Acres in the Quackenbush Training Area MAGTFTC, MCAGCC Twentynine Palms, CA	ASM Affiliates, Inc., Carlsbad, CA	SURV		yes
CRR128	2005	Wagner, HM	Report to Accompany the Newly Cataloged Paleontological Collections from Gypsum Ridge - Contract No. M67399-05-P-0155	Wagner & Associates, Lemon Grove, CA	OTHR		yes yes
CRR129	2006	Dosh, SG, Flenniken, JJ & Trautman, PJ	Evaluation of Forty-three Archaeological Sites in the Lava Training Area, MACGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	EVAL		yes

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CRR130	2006	Zyniecki, M	Cultural Resources Inventory of 2230 Acres in the Lava Training Area MAGTFTC, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
CRR131	2006	Dosh, SG	Evaluation of Eight Historic Archaeological Sites in Maumee Mine and Emerson Lake Training Areas MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	EVAL	yes
CRR132	2006	Basgall, ME, Glover, LC & Jurich, DM	Archaeological Assessment of Eight Prehistoric Sites in the Acorn Training Area MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
CRR133	2006	Overly, SA & Basgall, ME	Archaeological Assessment of Four Prehistoric Sites in the Lavic Lake Training Area, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
CRR134	2006	Dosh, SG	Cultural Resources Inventory of 1687 Acres in Emerson Lake Training Area and 1605 Acres in Quackenbush Training Area MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
CRR135	2006	Woodman, C	Evaluation of Eight Prehistoric Archaeological Sites in the Sandhill, Gypsum Ridge, and Noble Pass Training Areas MCAGCC Twentynine Palms, CA	SAIC, Santa Barbara, CA	EVAL	yes
CRR136	2006	Flenniken, JJ, Trautman, PJ & Williams, SL	National Register of Historic Places Evaluation of Twenty-six Sites in the Quackenbush Training Area MCAGCC Twentynine Palms, CA	Lithics Analysts, Inc., Pullman, WA	EVAL	yes
CRR137	2006	Basgall, ME & Jurich, DM	Archaeological Investigations at Nine Prehistoric Sites in the Emerson Lake Training Area, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes

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CRR138	2006	Jurich, DM & Basgall, ME	Archaeological Assessment of Outlying Portions of the Surprise Spring Site Complex (CA-SBR-424/H) MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
CRR139	2006	Dosh, SG	Archaeological Survey of 2839 Acres in the Lava and Rainbow Canyon Training Areas MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
CRR140	2006	Dosh, SG	Archaeological Survey of 45 Square Kilometers in the Lava, Lead Mountain, Maumee Mine, Range, West, and Sandhill Training Areas on the MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
CRR141	2006	Hall, MC	Summary Report on Archaeological Evaluations of Twenty-one Prehistoric Sites in Central Emerson Lake Basin MCAGCC Twentynine Palms, CA	Archaeological Research Unit, University of California, Riverside, CA	EVAL	yes
CRR142	2006	Hall, MC & Linton, CJ	Archaeological Survey of 494 Acres in Maumee Mine Training Area and Investigation of Rockshelter Site CA-SBR-9785, MCAGCC Twentynine Palms, CA	Archaeological Research Unit, University of California, Riverside, CA	SURV	yes
CRR143	2006	Zeanah, DW, Martinez, JE & Overly, SA	Cultural Resources Assessment of Four Sites in the Quackenbush Training Area MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
CRR144	2006	Dosh, SG	Surprise Spring Archaeological Mapping, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
CRR145	2007	Giambastiani, MA	Archaeological Survey of 1094 Acres in the East Training Area MAGTFTC, MCAGCC Twentynine Palms, CA	ASM Affiliates, Inc., Carlsbad, CA	SURV	yes

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CRR146	2007	Jurich, DM, Overly, SA & Basgall, ME	Archaeological Assessment of Four Prehistoric Sites in the Black Top Training Area MAGTFTC, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
CRR147	2007	Bethard, KR, Basgall, ME, Jurich, DM & Glover, LC	Cultural Resources Assessment of Six Sites in the Emerson Lake Training Area MAGTFTC, MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes
CRR148	2006	Giambastiani, MA	Archaeological Evaluation of Five Prehistoric Stone Quarry Sites in the Quackenbush Training Area, MAGTFTC, MCAGCC Twentynine Palms, CA	ASM Affiliates, Inc., Carlsbad, CA	EVAL	yes
CRR149	2007	Moore, SB & Zyniecki, M	Cultural Resources Inventory of 1483 Acres in the Sunshine Peak Training Area, MAGTFTC, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
CRR150	2007	Moore, SB & Zyniecki, M	Cultural Resources Inventory of 1300 Acres in the Noble Pass Training Area MAGTFTC, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
CRR151	2007	Moore, SB & Zyniecki, M	Cultural Resources Inventory of 1483 Acres in the Rainbow Canyon Training Area, MAGTFTC, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
CRR152	2007	Dosh, SG	Archaeological Survey of 10470 Acres in the Sunshine Peak, Black Top, Sandhill, Lavic Lake, and Quackenbush Training Area MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV	yes
CRR153	2007	Pierce, W & Basgall, ME	Archaeological Assessments in the Acorn Training Area MCAGCC Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	yes

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CRR154	2007	Hart, DR	Cultural Resources Inventory of 12624 Acres for Target Array Locations in Ten Training Areas, MAGTFTC, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV		yes	
CRR155	2007	Lechner, T & Giambastiani, MA	Archaeological Survey of 1850 Acres in the Gypsum Ridge and Lead Mountain Training Areas, MAGTFTC, MCAGCC Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	SURV		yes	
CRR156	2008	Giambastiani, MA & Berg, A	Archaeological Excavations at Nine Prehistoric Sites in the Emerson Lake Basin, MAGTFTC, MCAGCC Twentynine Palms, California	ASM Affiliates, Inc., Reno, NV	EVAL		yes	
CRR157	2008	Lechner, T & Giambastiani, MA	Archaeological Survey of 1050 Acres in the Quackenbush Training Area MAGTFTC, MCAGCC Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	SURV		yes	
CRR158	2008	Dosh, SG	Archaeological Survey of 4254 Acres in the Sandhill, Black Top, Gypsum Ridge, and Sunshine Peak Training Areas, MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV		yes	
CRR159	2008	Lechner, T & Giambastiani, MA	An Evaluation of Six Prehistoric Archaeological Sites in the Lavic Lake Training Area, MCAGCC Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	EVAL		yes	
CRR160	2008	Wagner, HM	Preliminary Paleontological Report for April 1-4. 2008 Field Work A Cultural Resources Inventory of Approximately 2150 Acres in the Maumee Mine, Lavic Lake, and Quackenbush Training Areas MAGTFTC, MCAGCC Twentynine Palms, CA	Wagner & Associates, Lemon Grove, CA	OTHR	yes	yes	
CRR161	2009	Lechner, T	A Cultural Resources Inventory of Approximately 2150 Acres in the Maumee Mine, Lavic Lake, and Quackenbush Training Areas MAGTFTC, MCAGCC Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	SURV		yes	
CRR162	2009	Lechner, T	Archaeological Survey of 741 Acres in the Acorn Training Area, MAGTFTC, MCAGCC Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	SURV		yes	
CRR163	2009	Lechner, T & Giambastiani, MA	A Cultural Resources Survey of Approximately 18830 Acres for the Western and Southern Expansion Area, Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	SURV		yes	

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CRR164	2009	Lechner, T & Giambastiani, MA	A Cultural Resources Inventory of Approximately 11560 Acres in the Eastern Expansion Area, Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	SURV		yes	
CRR165	2009	Dean, JC	Conservation Plan for Future Graffiti Treatment, Foxtrot Petroglyph Site (CA-SBR-161), MCAGCC, Twentynine Palms, CA	Dean & Associates Conservation Services, Portland, OR	OTHR		yes	
CRR166	2009	Giambastiani, MA, Hale, MJ & Catacora, A	Archaeological Evaluations at Forty-three Prehistoric Toolstone Quarry Sites and Review of Evaluations at Twenty-six Additional Quarry Sites in the Quackenbush Training Area, MAGTFTC, MCAGCC Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	EVAL		yes	
CRR167	2009	Lechner, T, Giambastiani, MA & Gardner, J	A Cultural Resources Inventory of Approximately 6000 Acres in the Cadiz Valley Acquisition Study Area, Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	SURV		yes	
CRR168	2009	Lechner, T & Giambastiani, MA	Archaeological Survey and Site Damage Assessment of 1266 Acres in the Deadman Lake Cultural Resources Management Area, MCAGCC Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	SURV/ EVAL		yes	
CR169	2010	Lechner, T, Giambastiani, MA & Hale, MJ	A Cultural Resources Inventory of Approximately 6200 Acres in the Johnson Valley Expansion Area, Yucca Valley, CA	ASM Affiliates, Inc., Reno, NV	SURV		yes	
CRR170	2009	Dosh, SG	Archaeological Survey of 5290 Acres in the Lead Mountain, Black Top, Emerson Lake, and Lavic Lake Training Areas MCAGCC Twentynine Palms, CA	Northland Research, Inc., Flagstaff, AZ	SURV		yes	
CRR171	2010	Lechner, T & Giambastiani, MA	A Cultural Resources Inventory of 3,000 Acres in the East Study Area, MAGTFTC, MCAGCC, Twentynine Palms, California	ASM Affiliates, Inc., Reno, NV	SURV		yes	
CRR172	2010	Giambastiani, MA	Archeological Evaluations of 13 Prehistoric Sites in the Emerson Lake and Acorn Training Area, MAGTFTC, MCAGCC, Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	EVAL		yes	yes

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CRR173	2010	Hale, M & Giambastiani, MA	Archeological Resources Survey Report Aerial Maneuver Zone (AMZ) Project at the Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, California, San Bernardino County, California	ASM Affiliates, Inc., Carlsbad, CA	SURV	yes
CRR174	2010	Backes, C, C Cisneros, and J Dietler	Archeological Survey of 6.4 sq. km (1,575 Acres) in the Quackenbush and Gypsum Ridge Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	SWCA, Inc. Environmental Consultants, South Pasadena, CA	SURV	yes
CRR175	2010	Lechner, T & Giambastiani, MA	A Cultural Resources Inventory of Approximately 2,470 Acres in the Maumee Mine Training Area, Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, California	ASM Affiliates, Inc., Reno, NV	SURV	yes
CRR176	2010	Lechner, T & Giambastiani, MA	A Cultural Resources Inventory of 2,400 Acres in the Lavic Lake Training Area, MAGTFC, MCAGCC, Twentynine Palms, California	ASM Affiliates, Inc., Reno, NV	SURV	yes
CRR177	2010	Schaefer, J. & Daniels, J	The Application of Ceramic Petrography and XRF Sourcing to the Interpretation of Prehistoric Aboriginal Pottery and Clay Sources in the Southern Mojave Desert, MCAGCC, Twentynine Palms, CA	ASM Affiliates, Inc., Carlsbad, CA	OTHR	yes
CRR178	2010	Hale, M & Giambastiani, MA	A Cultural Resources Inventory for Sample Surveys in Selected Training Areas, MCAGCC, Twentynine Palms, San Bernardino County, CA	ASM Affiliates, Inc., Reno, NV	SURV	yes
CRR179	2010	Lechner, T & Giambastiani, MA	A Cultural Resources Inventory 6,500 Acres in the West Study Area, Johnson Valley, California	ASM Affiliates, Inc., Reno, NV	SURV	yes
CRR180	2010	Giambastiani, MA	Archeological Evaluations of 11 Prehistoric Sites in the Lead Mountain, Quackenbush, West, and Sandhill Training Areas, MAGTFC, MCAGCC, Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	EVAL	yes

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CRR181	2010	Giambastiani, MA & T Lechner	Archeological Evaluations of Eight Prehistoric Sites in the Lavic Lake Training Area, MAGTFTC, MCAGCC, Twentynine Palms, California	ASM Affiliates, Inc., Reno, NV	EVAL	yes	yes
CRR182	2010	Sander, JK & JM Smithwick Becker, MS	A Class III Cultural Resources Inventory for the Leatherneck Substation Project Telecommunications Line, Riverside and Sand Bernardino Counties, California	Chambers Group, Inc. Redlands, CA	SURV	yes	
CRR183	2010	M Richards, S Stringer-Bowsher, & JT Daniels, Jr	An Archaeological Survey for the 115KV Subtransmission Line Near Twentynine Palms, San Bernardino County, California	ASM Affiliates, Inc., Carlsbad, CA	SURV	yes	
CRR184	2010	Wagner, HM	Summary Paleontological Report to Accompany the Preliminary Report for the April 14, 2008, Field Work	Wagner & Associates, Lemon Grove, CA	OTHR	yes	yes
CRR185	2010	Elzinga, AS & MR Des Lauriers	Archaeological Investigations at Four Prehistoric Sites in the Emerson Lake Basin, MAGTFTC, MCAGCC, Twentynine Palms, CA	Anthropologic al Research Institute California State University, Northridge Northridge, California	EVAL	yes	
CRR186	2010	Cisneros, C & J Dietler	Archeological Survey of Eight Proposed MV-22 Osprey Landing Areas, Marine Corps Air Ground Combat Center, San Bernardino County, Twentynine Palms, California	SWCA, Inc. Environmental Consultants, Pasadena, CA	SURV	yes	
CRR187	2011	Dietler, J, RS Ramirez, C Backes, & L Hoffman	Archeological Evaluation of 10 Sites within the Acorn and Emerson Lake Training Areas, MCAGCC, Twentynine Palms, CA	SWCA, Inc. Environmental Consultants, Pasadena, CA	EVAL	yes	yes

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CRR188	2011	Brewster, A, MA Giambastiani, & D Giambastiani	A GIS-Based Archeological Predictive Model for Proposed Expansion of the Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	ASM Affiliates, Inc., Reno, NV	OTHR	yes	
CRR189	2011	Lechner, T & Giambastiani, MA	Archeological Survey of 5,220 Acres in the Black Top and Lead Mountain Training Areas, Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, California	ASM Affiliates, Inc., Reno, NV	SURV	yes	
CRR190	2011	Giambastiani, MA	Archeological Evaluations of Five Prehistoric Sites in the Gypsum Ridge, Acorn, and Sand Hill Training Areas, Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	EVAL	yes	
CRR191	2011	Dosh, SG	Letter Report for new sites previously recorded as SRLs	Northland Research, Inc., Flagstaff, AZ	OTHR	yes	
CRR192	2011	Giambastiani, MA	Archeological Evaluations at Nine Prehistoric Sites in the Acorn and Emerson Lake Training Areas, Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, California	ASM Affiliates, Inc., Reno, NV	EVAL	yes	yes
CRR193	2011	Dean, JC & D Uhl	Graffiti Reintegration Treatment / Test Report, January, 2011: Foxtrot Petroglyph Site (CA-SBR-161B), Marine Corps Air Ground Combat Center, Twentynine Palms, California	Dean & Associates Conservation Services, Portland, OR	OTHR	yes	
CRR194	2011	Wall, BR & DW Glover	A Cultural Resources Inventory of Approximately 2680 Acres in the Gypsum Ridge and West Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	Archaeological Research Center, California State University, Sacramento	SURV	yes	
CRR195	2011		Archaeological Survey of 23 Historic Mining Related Resources in the Sunshine Peak, Lavic Lake, Maumee Mine, Lead Mountain, and Delta Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	Past Forward, Inc. Plymouth, CA	SURV	yes	

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CRR196	2011	Giambastiani, MA & T Lechner	Archeological Inventory of 2,000 Acres in the Emerson Lake and Range Training Areas, Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, California	ASM Affiliates, Inc., Reno, NV	SURV		yes	
CRR197	2011	Switalski, H & S Hutmacher	A Phase I Archaeological Survey Report for the Southern California Edison Company Replacement of Two Deteriorated Power Pole Structures on the Santana 33kv Distribution Circuit (TD495644), Marine Corps Air Ground Combat Center, Twentynine Palms, San	AMEC Earth and Environmental, Inc. Bakersfield, CA	SURV		yes	
CRR198	2012	Fryman, L	Historical Resource Study for Proposed Land Acquisition Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	ASM Affiliates, Inc., Carlsbad, CA	SURV/ ORVW		yes	
CRR199	2012	Tejada, B	RE: Archaeological Monitoring for Camp Wilson FOTW Closure (PL#2585.01)	Pacific Legacy, Lancaster, CA	MONT		yes	
CRR200	2012	Giambastiani, MA & C Miller	An Archeological Survey of Approximately 150 Acres in the Maumee Mine and Gays Pass Training Areas, MAGTFTC, MCAGCC, Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	SURV		yes	
CRR201	2012	Byerly, R	Cultural Resources Inventory of 20,500 Acres in the Proposed West Study Area for the Marine Corps Air Ground Combat Center, Johnson Valley, California	FWARG, Henderson, NV	SURV		yes	
CRR202	2012	Byerly, R	Report Evaluations of Nineteen Prehistoric Sites in the Emerson Lake and Maumee Mine Training Areas, MCAGCC, Twentynine Palms, CA, Vol. 1&2	FWARG, Henderson, NV	EVAL	a, b	yes	yes
CRR203	2012	Giambastiani, MA	Archeological Evaluations of 10 Prehistoric Sites in the Emerson Lake and Quackenbush Training Areas, MAGTFTC, MCAGCC, Twentynine Palms, CA	ASM Affiliates, Inc., Reno, NV	EVAL		yes	yes
CRR204	2012	Byerly, R	Evaluations of Eighteen Prehistoric Sites in the Blacktop, Lavic Lake, and Noble Pass Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL	a, b	yes	yes

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CRR205	2012	Giambastiani, MA	Archeological Evaluations of Four Prehistoric Sites in Johnson Valley, Southern San Bernardino County, California	ASM Affiliates, Inc., Reno, NV	EVAL		yes	
CRR206	2012	Byerly, R	Cultural Resources Inventory of 3,339 Acres in the Lavic Lake and Maumee Mine Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV	a, b	yes	
CRR207	2013	Byerly, R	Cultural Resources Inventory of 40,560 Acres in the West and South Study Areas (Johnson and Wonder Valleys) for Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV	a, b	yes	
CRR208	2013	Basgall, ME	Programmatic Review of Lithic Workshops in the Quackenbush Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	Archaeological Research Center, California State University, Sacramento	ORVW		yes	
CRR209	2013	Byerly, R	Cultural Resources Inventory of 2,079 Acres in the Acorn and Sand Hill Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV		yes	
CRR210	2013	Brady, RT & JM Farquhar	Archeological Evaluation of Ten Prehistoric Sites in the Lavic Lake, Gays Pass, and Maumee Mine Training Areas	Albion Environmental, Inc., Santa Cruz, CA	EVAL		yes	yes
CRR211	2013	Maniery, ML M Nolte, C Baker, & S Benway	National Register of Historic Places Evaluation of Eleven Historical Mining Sites in Johnson Valley, San Bernardino County, California	PAR Environmental Services, Inc. Sacramento, CA	EVAL		yes	
CRR212	2013	Roberson, J	Cultural Resources Inventory of Approximately 28,822 Acres for the Proposed Western Expansion of the Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV	a, b	yes	
CRR213	2014	Byerly, R	Evaluations of Sixteen Sites in the Emerson Lake and Lavic Lake Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL		yes	yes

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CRR214	2014	Byerly, R	Evaluations of 23 Prehistoric Sites in the West Study Area (Johnson Valley) for the Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL		yes	yes
CRR215	2014	Byerly, R	Cultural Resources Inventory of 3,161 Acres in the Blacktop and Emerson Lake Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Davis, CA	SURV		yes	
CRR216	2014	Glover, DW, ME Basgall, WE Larson, WL Norton, & KR Bethard	Archeological Evaluation of 22 Prehistoric Sites in Quackenbush Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	Archaeological Research Center, California State University, Sacramento	EVAL	a, b	yes	
CRR217	2014	Byerly, R	Cultural Resources Inventory of 471 Acres in the Emerson Lake Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV		yes	
CRR218	2014	Byerly, R	Cultural Resources Inventory of 2,808 Acres in the Delta, Emerson Lake, Maumee Mine, and Range Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV		yes	
CRR219	2014	Roberson, J	Cultural Resources Inventory of 1734 Acres in the Lead Mountain Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, CA	FWARG, Henderson, NV	SURV		yes	
CRR220	2014	Roberson, J	Evaluations of 33 Prehistoric Sites and One Multicomponent Site in the West Study Area (Johnson Valley) for Marine Corps Air Ground Combat Center, Twentynine Palms, CA	FWARG, Henderson, NV	EVAL	a, b	yes	
CRR221	2014	Norton, WL, DW Glover, WE Larson, KR Bethard, & ME Basgall	Archeological Evaluation of 15 Prehistoric Sites Along Marine Expeditionary Brigade Routes in Four Training Areas (Black Top, Lavic Lake, Noble Pass, Rainbow Canyon), Marine Corps Air Ground Combat Center, Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL		yes	

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CRR222	2014	Maniery, ML J Allen, & M Nolte	National Register of Historic Places Phase II Evaluation of Ten Historical Archaeology Sites in Johnson Valley	PAR Environmental Services, Inc. Sacramento, CA	EVAL		yes
CRR223	2015	Slowik, TR & ME Basgall	Archeological Evaluation of Six Prehistoric Sites in Lead Mountain Training Area, MCAGCC, Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL		yes
CRR224	2015	Byerly, R	Cultural Resources Inventory of 1,187 Acres in the Lead Mountain and Quackenbush Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV		yes
CRR225	2015	Basgall, ME, DW Glover, T Slowik, BR Wall, WL Norton & WE Larson	Archeological Evaluation of 38 Prehistoric Sites Along Marine Expeditionary Brigade Routes in Two Training Areas (Acorn and Emerson Lake), MCAGCC, Twentynine Palms, CA	Archaeological Research Center, California State University, Sacramento	EVAL	a, b	yes
CRR226	2015	Byerly, R	Emergency Archaeological Resurvey of 239 Acres in the Emerson Lake Training Area, MCAGCC	FWARG, Henderson, NV	SURV		yes
CRR227	2015	Byerly, R and J Roberson	Cultural Resources Inventory of 496 Acres in the Emerson Lake Training Area, MCAGCC, Twentynine Palms, CA	FWARG, Henderson, NV	SURV		yes
CRR228	2015	Byerly, R	Evaluations of 27 Prehistoric Sites in the Acorn and Sand Hill Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL		yes
CRR229	2015	Roberson, J & E Gingerich	Cultural Resources Inventory of 1,451 Acres in the Lead Mountain Training Area for Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV		yes
CRR230	2015	Byerly, R	Evaluations of Nine Prehistoric Sites in the Lead Mountain Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL		yes

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CRR231	2015	Roberson, J	Evaluations of 23 Prehistoric Sites in the Blacktop, Emerson Lake, and Morgan's Well Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL	yes
CRR232	2015	Kremkau, SH, DM Duryea, MQ Sutton, & JE Lev Tov	An Archaeological Survey of 1,296 Acres in the Galway Lake and Bessemer Mine Training Areas at Marine Corps Air Ground Combat Center, Twentynine Palms, California	SRI, Redlands, CA	SURV	yes
CRR233	2015	Slowik, T	Cultural Resources Inventory of Approximately 1,668 Acres in the Acorn and Maumee Mine Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	Archaeological Research Center, California State University, Sacramento	SURV	yes
CRR234	2015	Sutton, MQ, SH Kremkau, & JE Lev Tov	Evaluation of Archaeological Site CA-SBR-6673 in the Lava Training Area at the Marine Corps Air Ground Combat Center, Twentynine Palms, California	SRI, Redlands, CA	EVAL	yes
CRR235	2015	Byerly, R	Evaluations of 23 Prehistoric Sites in the Emerson Lake Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, CA	FWARG, Henderson, NV	EVAL	yes
CRR236	2016	Gingerich, E	Evaluations of Two Prehistoric Sites in the Bessemer Mine and Galway Lake Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL	yes
CRR237	2016	Byerly, R	Results of Prehistoric Archaeological Investigations within a Portion of the Surprise Spring Site Complex (CA-SBR-424/H) by the 2005 California State University, Los Angeles, Field School, Sand Hill Training Area, Marine Corps Air Ground Combat Center	FWARG, Henderson, NV	EVAL	yes
CRR238	2016	Roberson, J	Evaluations of 25 Prehistoric Sites and One Multi-component Site in the Acorn, Gypsum Ridge, and Lead Mountain Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL	yes
CRR239	2016	Gilreath, AJ	The Sunshine Peak Rock Art Complex, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Davis, CA	ORVW	yes

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CRR240	2016	Byerly, R	Cultural Resources Inventory of 983 Acres in the Lavic Lake Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV	yes
CRR241	2016	Maniery, ML S Heffner, M Triplett, AE Maniery, & J Allen	National Register of Historic Places Phase II Evaluations of Six Historical Archaeology Sites for Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	PAR Environmental Services, Inc. Sacramento, CA	EVAL	yes
CRR242	2016	Roberson, J & E Gingerich	Cultural Resources Inventory of 2,998 Acres in the Lead Mountain, Morgan's Well, and Noble Pass Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV	yes
CRR243	2016	Byerly, R	Evaluations of Nine Prehistoric and two Multicomponent Archaeological Sites in the Blacktop, Lava, and Morgan's Well Tas, MCAGCC	FWARG, Henderson, NV	EVAL	yes
CRR244	2016	Byerly, R and J Roberson	Evaluations of Nineteen Prehistoric Archaeological Components in the Lavic Lake, Maumee Mine, and Sunshine Peak Tas, MCAGCC, 29, CA	FWARG, Henderson, NV	EVAL	yes
CRR245	2016	Roberson, J	Cultural Resources Inventory of 13,875 Acres in the Gays Pass, Gypsum Ridge, Maumee Mine, and Quackenbush Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV	yes
CRR246	2016	Byerly, R	Condition Assessment of CA-SBR-1880 and Cultural Resources Inventory of the Surrounding 36 Acres in the Means Lake Training Area, Marine Corps Air Ground Combat Center, San Bernardino County, California.	FWARG, Henderson, NV	SURV/ EVAL	yes
CRR247	2017	Byerly, R and J Roberson	Cultural Resources Inventory of 7,090 Acres in the Lavic Lake and Sunshine Peak Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV	a, b yes
CRR248	2018	York, AL	Cultural Resources Investigations in Support of a New Drinking Water Treatment Plant, Marine Corps Air Ground Combat Center, Twentynine Palms, California	AECOM, San Diego, CA	SURV	yes

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CRR249	2017	Byerly, R	Integrated Evaluation Report for 21 Prehistoric Archaeological Sites within Parcel EM7, Emergency Re-survey, Emerson Lake Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL	a, b	yes
CRR250	2017	Byerly, R	Cultural Resources Inventory of 4,402 Acres in the Blacktop and Lava Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV		yes
CRR251	2017	Byerly, R	Cultural Resources Inventory of 3,448 Acres in the Bullion, Morgans Well, Noble Pass, Rainbow Canyon, and Range Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV		yes
CRR252	2017	Heffner, SC & ML Maniery	National Register of Historic Places Phase II Evaluations of Five Historical Archaeology Sites near Bessemer Mine, Marine Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	PAR Environmental Services, Inc. Sacramento, CA	EVAL		yes
CRR253	2017	Byerly, R and J Roberson	Cultural Resources Inventory of 2,457 Acres in the Lead Mountain Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV		yes
CRR254	2017	Roberson, J & R. Byerly	Evaluations of 38 Prehistoric Archaeological Sites in the Blacktop, Gays Pass, Lava, Lavic Lake, Morgans Well, Noble Pass, Quackenbush, and Rainbow Canyon Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL		yes
CRR255	2017	Byerly, R and J Roberson	Cultural Resources Inventory of 7,724 Acres in the Emerson Lake Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	SURV		yes
CRR256	2017	Byerly, R	Evaluations of Eight Prehistoric Sites in the Emerson Lake, Galway Lake, Maumee Mine, Means Lake, and Sunshine Peak Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	EVAL		yes

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CRR257	2017	Keller, A	An Evaluation of Two Archaeological Sites in the Galway Lake and Bessemer Mine Training Areas at Marine Corps Air Ground Combat Center, Twentynine Palms, California	SRI, Redlands, CA	EVAL	yes
CRR258	2017	Keller, A	An Archaeological Survey of 605 Acres in the Galway Lake Training Area at Marine Corps Air Ground Combat Center, Twentynine Palms, California	SRI, Redlands, CA	SURV	yes
CRR259	2017	Keller, A	An Evaluation of Four Threatened Archaeological Sites in the Bessemer Mine and Galway Lake Training Areas at Marine Corps Air Ground Combat Center, Twentynine Palms, California	SRI, Redlands, CA	EVAL	yes
CRR260	2017	Keller, A	An Evaluation of Seven Archaeological Sites in the Bessemer Mine and Galway Lake Training Areas at Marine Corps Air Ground Combat Center, Twentynine Palms, CA	SRI, Redlands, CA	EVAL	yes
CRR261	2017	Keller, A	An Archaeological Survey of 3,500 Acres in the Bessemer Mine and Galway Lake Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California	SRI, Redlands, CA	SURV	yes
CRR262	2017	Stanton, P & A Keller	An Archaeological Survey of 9,300 Acres at Marine Corps Air Ground Combat Center, Twentynine Palms, California	SRI, Redlands, CA	SURV	yes
CRR263	2017		Historic Context Study for Victorville Precision Bombing Range Targets.	JRP Historical Consulting, Davis, CA	OTHR	yes
CRR264	2018	Maniery, ML & SC Heffner	National Register of Historic Places Phase II Evaluations of Six Historical Archaeology Sites, Bessemer Mine, Sunshine Peak, Galway Lake Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	PAR Environmental Services, Inc. Sacramento, CA	EVAL	yes
CRR265	2018	Gregory, CJ & S Thompson	Architectural Survey, Documentation, and Evaluation of Buildings and Structures at Marine Corps Air Ground Combat Center, Twentynine Palms, San Bernardino County, California	SRI, Redlands, CA	SURV/ EVAL	yes
CRR266	2019	Swope, KK & CJ Gregory	Historic Context Study for Mining in Johnson Valley, Marine Corps Air Ground Combat Center, Twentynine Palms, California	SRI, Redlands, CA	ORVW	yes

Appendix 8

CRR267	2020	Byerly, R, BR Wall & DC Young	Historic Context Study of the Emerson Lake Culturally Sensitive Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California	FWARG, Henderson, NV	ORVW	yes
CRR0268	2020	Drake, DH & MS Becker	Condition Assessment, Site Monitoring, and Effects Treatment (CASMET) Cycle 1 on Marine Corps Air Gorund Combat Center, Twentynine Palms, CA	ASM Affiliates, Inc., Carlsbad, CA	MONT	yes

Appendix 9.
Table of Sites

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Appendix 10.

Tribal POC's

Appendix 10

UPDATED 15 September 2020

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