

**FY 2003**

**SECRETARY OF DEFENSE AND SECRETARY OF THE NAVY  
ENVIRONMENTAL AWARD SUBMISSION**

**CULTURAL RESOURCES MANAGEMENT, INSTALLATION**



*Dr. Marie Cottrell leads a tour of the Foxtrot Petroglyph Site, November 2003*

**MARINE AIR GROUND TASK FORCE TRAINING COMMAND  
TWENTYNINE PALMS, CALIFORNIA**

## **CULTURAL RESOURCES MANAGEMENT, INSTALLATION**

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

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### **Summary:**

The Marine Air Ground Task Force Training Command has met and exceeded expectations developed in the Programmatic Agreement ratified by the Combat Center, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation as well as associated Indian Tribes, and set forth in the Integrated Cultural Resources Management Plan. Over the past three years over 60,000 acres were inventoried for cultural resources and 306 archeological sites have been or are in the process of being evaluated for eligibility for listing in the National Register of Historic Places. In keeping with the Spatial Data Standard for facilities, infrastructure and environment, the Cultural Resources Section developed and maintains a geographic information system (GIS) database of MCAGCC. The database currently records over 1,200 archeological sites and approximately 148,648 acres of the MCAGCC that has been surveyed for the presence of prehistoric and historic archeological remains. Command support and cooperation of the various directorates at the Combat Center, as well as the highly qualified staff at the Natural Resources and Environmental Affairs Directorate have made the cultural resources management program an outstanding preservation and compliance unit that is effectively able to support the goal of training lands sustainability with resource conservation.

**FISCAL YEAR 2003  
SECRETARY OF DEFENSE  
ENVIRONMENTAL AWARD  
CULTURAL RESOURCES MANAGEMENT – INSTALLATION**

**1. Introduction**

The Marine Corps Air Ground Combat Center (MCAGCC) is located in the southern Mojave Desert approximately 50 miles northeast of the city of Palm Springs and 150 miles east of the city of Los Angeles. MCAGCC occupies 598,178 acres (935 square miles) of diverse desert terrain and is the largest live-fire and maneuver training base in the Marine Corps.

**1.1 Mission**

The mission of the Marine Air Ground Task Force Training Command (MAGTFTC) located at MCAGCC is to conduct the Combined Arms Training Program and to support the tenant commands of the I Marine Expeditionary Force (I MEF) and the Marine Corps Communications and Electronics School (MCCES). Currently, over one-third of the Marine Corps forces are trained at MCAGCC in live-fire and maneuver exercises. The operating procedures at MCAGCC allow Marines to maneuver both on foot and mounted on vehicles through live-ordnance impact areas. It further permits most air and ground weapons commonly found in a Marine Air Ground Task Force to be employed in a combined arms setting. Most importantly, MCAGCC allows commanders to practice command control and combat essential skills of fire support coordination and live-fire maneuvers over a vast and challenging terrain. The combat skills developed and perfected at MCAGCC in a realistic desert environment have proved invaluable in recent conflicts.

**1.2 Population**

The current population of MCAGCC is 22,732, comprising 10,491 active military and 12,241 dependents. There are 1551 civilian personnel at the installation in both appropriated and non-appropriated fund activities. As a training center, MCAGCC annually trains approximately 60,000 Department of Defense personnel through the Combined Arms Exercise (CAX) program and 8,000 Marines through MCCES.

**1.3 Historical Context**

The installation is rich with prehistoric and historic archeological sites that range in size from a few square feet to many hundreds of acres. Prehistoric archeological sites include high quality toolstone quarry sites, campsites, rock art and ceremonial locations, caves, and small lithic and ceramic scatters that date from 100 to 10,000 years ago. Historic archeological sites in the area are related to the first mining efforts in the southern Mojave Desert. These mines were established in the 1880s and were linked to the establishment of railroad sidings and stations in the desert. Mining and ranching dominated the early historic period and were eventually replaced by homesteading. World War I veterans who had been exposed to German gas attacks claimed the first homesteads. They moved to the Twentynine Palms region because the dry,

clean air was beneficial to their continued health. In the 1930s, the depression era brought additional residents to the high desert. Some newcomers wanted to get away from the high cost of living in the cities; others wanted to try their hand at mining. This resurgence of mining activity continued well into the 1940s when the military arrived in the desert.

The military history of the installation began in 1941 when Camp Condor was established by the Army Air Forces to train glider pilots. The advantages of gliders over motorized aircraft included quiet delivery of combat troops, inexpensive design and quick construction. It is estimated that over 600 pilots were trained at Camp Condor between in its 15 months of operation. Glider training diminished in 1943 in light of evidence that gliders crashed too often in combat situations. Parachute delivery evolved into a more effective airborne technique. In 1944, the Army used Condor Field as a flight training school for powered aircraft. Later in 1944, the Navy assumed control of the facility using it for flight training, bombing and strafing. At war's end, the facility was placed in caretaker status.

In 1952, the USMC acquired over 900 square miles in the vicinity of Twentynine Palms, including Condor Field, for use in training Marines with long-range weaponry. The installation has evolved into to a premier live-fire training facility not only for Fleet Marines, but also for other DoD services and military personnel from a variety of countries.

## **2. Background**

On March 21, 2001, a Programmatic Agreement (PA) among the Advisory Council on Historic Preservation (ACHP), the California State Historic Preservation Officer (CASHPO), and MAGTFTC was ratified by signature. Additionally, two of the six Native American tribes with interests in MCAGCC were also signatories to the PA. The PA stipulated that MAGTFTC would prepare an Integrated Cultural Resources Management Plan (ICRMP) that, upon endorsement by the ACHP and CASHPO as well as the Tribes, would become the legal historic preservation compliance document guiding the inventory, evaluation, and treatment program at MCAGCC. The ICRMP was endorsed by CASHPO on November 25, 2002 and by ACHP on December 10, 2002. The Twentynine Palms Band of Mission Indians was signatory to the PA and the Colorado River Indian Tribes were signatories to both the PA and the ICRMP. The ICRMP is effective between fiscal year 2002 and fiscal year 2006.

The ICRMP focuses on the timely identification and evaluation of archeological resources, both historic and prehistoric. In 1999, all buildings and structures at MCAGCC built before 1989 were inventoried and evaluated for National Register eligibility. Because of their age, standard design, and utilitarian focus, none of the buildings or structures was determined eligible for listing. CASHPO concurred with this determination August 30, 2002. The ICRMP, therefore, was geared towards the management of archeological resources, not the built environment.

The ICRMP includes general information on the mission of MAGTFTC, the location and setting of MCAGCC, and describes the cultural resources management history, organized by training area to facilitate development of management goals. The ICRMP also identifies the plan's objective, the organizational and review responsibility for its implementation, and provides a detailed discussion of land uses. A regional and installation-specific context for both historic and prehistoric properties was developed. Additionally, all cultural resources studies completed

at the installation were detailed to establish a historic record. Priorities were established for future inventories and evaluations. The practical focus of the ICRMP is to identify inventory and evaluation requirements over the five-year life of the document in response to training needs and requirements. Additional topics in the ICRMP include curation plans, data management, site protection measures, monitoring plans, Native American consultation and coordination plans, and public awareness/outreach plans.

The ICRMP will be reviewed annually and updated every five years. A Historic Preservation Compliance Report (HPCR) is required annually, documenting all cultural resources management activities for the prior fiscal year. A HPCR was submitted to the CASHPO and the ACHP as well as the Tribes and other interested parties for fiscal years 2002 and 2003. HPCRs are due within 75 calendar days of the close of the fiscal year.

The Cultural Resources Section is positioned under the Natural and Cultural Resources Branch of the Natural Resources and Environmental Affairs (NREA) Division and is staffed by three archeologists. Dr. Marie Cottrell was the cultural resources manager for the period of this nomination. John Hale (M.A.) is the staff archeologist and Kathleen Tyree (M.A.) serves as the installation collections manager. The staff is responsible for the cultural resources management program at MCAGCC. To assist the cultural resources manager in meeting Native American consultation requirements, a Native American Working Group was established that includes representatives from Public Affairs, the Staff Judge Advocate, the Operations and Training Directorate, the Installations and Logistics Directorate, and NREA. The Working Group is designed to eliminate conflicts between directorates and enable the installation to speak with one voice to the Native American Tribes affiliated with lands that are currently part of MCAGCC.

### **3. Program Summary**

The most significant feature of the cultural resources management program at MCAGCC is the support MAGTFTC has afforded the program. The Command was able to negotiate a PA among the ACHP, the CASHPO, and associated Tribes, and develop an ICRMP that set forth a program to inventory, evaluate, and develop appropriate treatment for significant cultural resources. Additionally, the Command provided significant financial resources to ensure the conditions and stipulations of the PA and ICRMP were met.

As a result, over the past three years, 60,535.7 acres were inventoried for archeological resources bringing the total acreage of the base surveyed for cultural resources to 148,537.5 acres or 25.7% of the base. Also with end-of-year funding received in FY03, an additional 25,059 acres were contracted for inventory to be completed over the winter of FY04. The ICRMP, covering the period from FY02 through FY06, projected survey levels for each of the training areas at MCAGCC with the intent of ensuring all maneuverable lands that are demonstrably sensitive for cultural resources be inventoried by the close of FY06. With the acreage surveyed or scheduled for survey, only 16,000 acres must be surveyed over the next two years to meet the goals established in the ICRMP. To date, 1,373 archeological sites have been recorded within the installation boundaries. Of these, 306 sites have been or are in the process of being evaluated to determine their eligibility for listing in the National Register of Historic Places. Of the 306 sites selected for evaluation to date, final reports have been received for 203 sites; 101.5 were

recommended as eligible and 101.5 were recommended as not eligible. Evaluations are still in process for 103 sites.

In 2001, 16 sites were selected for evaluation; in 2002, 11 sites were selected; and in 2003, 59 sites were selected, bringing the total number of sites contracted for evaluation during the current award period to 86. The ICRMP projected that approximately 138 sites would be evaluated between FY02 and FY06. At the close of FY03, 70 sites had been selected for evaluation. Funds have been programmed over the remaining three years of the ICRMP to complete evaluations for the remaining 68 sites identified in the ICRMP and prioritized according to training needs.

In 2002, a permanent employee was added to the staff to manage cultural resources collections, and the current curation facility was made operational this past year. Additionally, as it became apparent that the curation and storage facilities available were inadequate to house all of MAGTFTC collections and records, a project to construct a new, dedicated curation facility was initiated. Currently, construction is projected to occur in FY06.

Great strides in inventory and evaluation as well as data management and curation were made over the course of the past three years and the installation received great praise from the Environmental Compliance Evaluation inspection team during the FY03 environmental audit. Perhaps the singly most important occurrence was the endorsement of the PA and ICRMP by the CASHPO and the ACHP bringing the training mission of MAGTFTC into compliance with the National Historic Preservation Act.

#### **4. Accomplishments**

##### **A. Overall Cultural Resources Management**

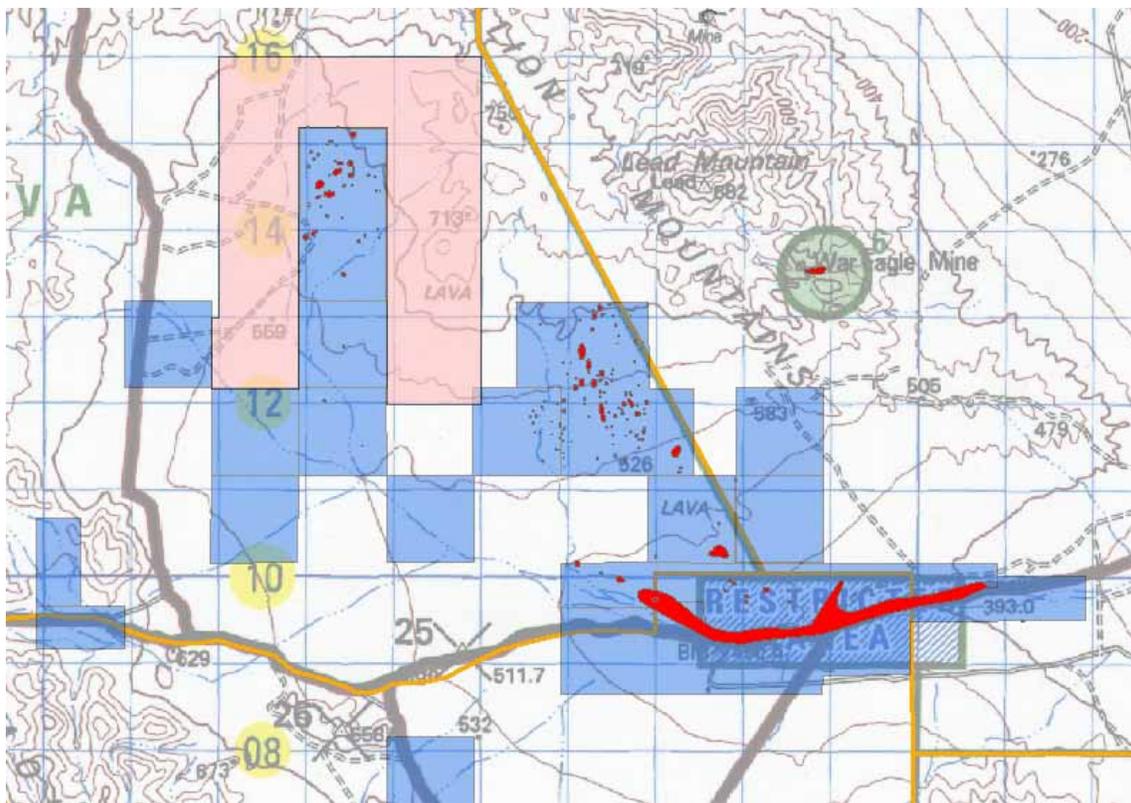
In 2001, MAGTFTC entered into a PA with the ACHP, the CASHPO and interested Indian Tribes. A PA is, functionally, a contract between the installation, the ACHP, and the SHPO that defines how the installation will carry out its historic preservation obligations consistent with Section 106 of the NHPA, but in a manner different from the procedures defined in the ACHP's published regulations. In accordance with the PA, the ICRMP was completed and the plan was initiated in 2002. The ICRMP clearly defined survey areas and identified a number of sites in the training areas to be evaluated each year. Funding was programmed to meet the objectives set forth in the ICRMP through the Programmatic Objective Memorandum (POM) planning and budgetary process.

Negotiating and ratifying a PA with the ACHP and the CASHPO and consultation with interested Indian Tribes was significant because it brought the training mission at MCAGCC into compliance with the National Historic Preservation Act. Development and implementation of the ICRMP organized and focused the extensive and complex cultural resources program on a specific order of accomplishment that will meet the spirit and intent of the law as well as ensure efficient utilization of limited funds. The ICRMP also served as a mechanism by which the Operations and Training Directorate and the Command at MAGTFTC could provide input into the program and ensure the program supports the primary mission of MAGTFTC to train combat-ready Marines.

The ICRMP has been in place for two years and was developed in coordination with the Integrated Natural Resources Management Plan (INRMP). The natural and cultural resources management programs are integrated into one branch of the Natural Resources and Environmental Affairs Division and the branch and division coordinate with all Directorates on the installation to facilitate environmental compliance. Cooperation within and among the various directorates at MCAGCC regarding cultural resources has been excellent over the years.

## B. Archeological Resources

Geographic Information System (GIS) technology is an important and revolutionary technology in the field of archeology that provides the means to organize, analyze and display map-based information. At MCAGCC, the GIS database serves as a primary means for maintaining archeological data on inventoried areas, site locations, site evaluations, and ongoing cultural resource management work. The MCAGCC GIS database currently contains the records for over 1200 sites aboard the base, with another 200 records awaiting entry. The database also contains the records of all surveys conducted aboard the base, which—including surveys currently under way during FY 04—comprise almost 30% of the 935 square miles of the base. The scale of inventory and evaluation aboard MCAGCC is therefore almost unprecedented, but is easily and effectively managed through the GIS database.



Portion of the MCAGCC GIS database showing surveyed areas (blue), pending surveys (pink), and recorded archeological sites (red).

The GIS database allows the cultural resource management staff quicker access to more complete records, which increases productivity, helps to make better decisions, and enhances

communication with contractors, other MCAGCC staff, and other DoD facilities. Digitized archeological records provide for data exchange on an unprecedented scale, allowing the Cultural Resources Section to respond quickly, efficiently, and accurately to any inquiries, Review for Environmental Impact Reports, and other contingencies requiring cultural resource input or compliance. The Cultural Resources Section can coordinate training area use with Range Scheduling and other units, respond to inquiries, and advise units of culturally sensitive resources that may fall within a unit's operational area or a contractor project area. Additionally, the GIS provides visiting contractors with instant access to the most up-to-date data on cultural resources possible, significantly reducing the time spent researching and preparing for contract archeological work in the vast MCAGCC training areas. As a result, information can be incorporated into a much larger arena, particularly when information can be shared and synthesized with local and federal government agencies.

The most valuable role the GIS play in cultural resources is the accuracy of the data recorded for the archeological sites aboard MCAGCC. Using the Trimble XRS GPS and TSC1 Data collector, the Cultural Resources Section has collected data on archeological sites and resources to an accuracy of within one meter. The combination of the GIS and the sub-meter GPS allows for an unprecedented precision in the management of MCAGCC's cultural resources.

One of the most widely applied uses of GIS systems are site location models, that, much like a suitability study, highlight areas that meet certain criteria and thus will probably contain an archeological site. Archeological predictive modeling seeks to establish a relationship between certain environmental parameters and known archeological site locations, and allows archaeologists to identify areas that are likely to contain archeological materials in advance of the actual need. The data collected today and integrated into the GIS will be of enormous value tomorrow, allowing the Cultural Resources Section staff to integrate the latest tools, such as view shed analysis and proximity analysis, into a predictive model that will more readily identify culturally sensitive areas.

### **C. Native American Program**

MAGTFTC consults with six Native American Tribes that have interests in lands currently occupied by MCAGCC. These include the Fort Mojave Indian Tribe, the Colorado River Indian Tribes, the Chemehuevi, the Twentynine Palms Band of Mission Indians, the San Manuel Band of Mission Indians, and the Morongo Band of Mission Indians. Although the installation does not as yet have any items that relate to human remains or items of cultural patrimony nor do any of the Tribes identify traditional cultural properties within the base boundaries, the numerous archeological sites including rock art sites and various rock alignments are interpreted as having cultural significance to Native American groups. All reports of investigations are provided to the six Tribes and various consultations occur. In FY03, funding was provided to complete an Ethnographic/Ethnohistorical Study documenting the relationship of the various Tribes with MCAGCC lands.

## D. Curation

MCAGCC's Curation Facility, a dedicated space of three rooms totaling 396 sq ft is now in compliance with the requirements of 36 CFR 79 for archeological objects. Currently housing nearly 200 boxes of artifacts in controlled temperature and relative humidity, the collections also include archived reports, photos, maps, and field notes. In addition, the Curation Facility maintains paleontological and botanical specimens and archival supplies. A database, nearing completion, allows access to the inventory for researchers and educational purposes. Items accessioned/curated/copied in FY03 include 60 sites equaling 82,414 artifacts in 116 boxes; nine boxes of supporting documentation; and 21 reports.



**The MCAGCC Curation Facility now meets the Federal regulations as defined in 36 CFR 79.**

It is anticipated that the Curation Facility will be at maximum capacity in FY04. On-going curation efforts will increase as surveys are completed, sites are evaluated and possible data recovered. To meet future demands for curation, design funds have been secured to build a larger, permanent curation facility that will accommodate the ever growing volume of artifacts and associated documentation that are generated as a result of the cultural resources program at MCAGCC. This facility is scheduled to begin construction in FY06.

The Collections Manager is currently involved with the development of archival library databases for concurrent use as metadata in the ArcGIS software program that documents all

survey coverages and archeological sites recorded at MCAGCC.

## E. Cultural Awareness and Education

Cultural resources awareness for Marines, family members and civilian employees has been a primary goal of the cultural resources program at MCAGCC. Although base access has been more restrictive since 9/11, tours of the Foxtrot Petroglyphs via MCAGCC's cultural resources staff continue to remain in high demand. Over the past three years, nearly 100 visitors have toured the site including visiting DoD dignitaries, Marines and their families, and a limited number of civilians.



**Dr. Marie Cottrell talks to members of the MCAGCC Officers' Spouses Club during a tour of the Foxtrot Petroglyph Site.**

In support of the President and the First Lady's Preserve America initiative, the Florida Army National Guard developed Internet virtual tours of two facilities in Florida and one in California. The Army National Guard sites in Florida included a natural resources virtual tour of the Camp Blanding Training Site in Starke, Florida, and a cultural resources virtual tour of St. Francis Barracks in St. Augustine, Florida. The third site was the Foxtrot Petroglyph Site, a National Register-listed prehistoric rock art site located in the heart of the MCAGCC training areas. The MCAGCC Cultural Resources Section staff supported the creation of the virtual tour by providing background documentation and logistical support, and guiding the photographer and videographer at the site. In addition, the staff provided video and voice recordings to serve as footage and sound bits for incorporation into the virtual tour Web site.

## **F. Community Relations**

A number of diverse avenues have been taken to provide the public with information on the historic preservation efforts on the installation. An article prepared by cultural resources staff on the rock art at MCAGCC was published in CRM Magazine in 2001. Reports are distributed to local interests groups, the Tribes, local universities and colleges, and other DoD and Federal agencies in the area.

MCAGCC cultural resources staff members are affiliated with the Society for American Archaeology, the Society for California Archaeology, the Archaeological Institute of America, the Society for Historical Archaeology, and the Twentynine Palms Historical Society. Ms. Tyree has served as an archeological consultant to the Friends of Big Morongo Preserve and Mr. Hale is on the Board of Directors of the Twentynine Palms Historic Society. Additionally, we are members of the Paleontological, Archaeological, and Cultural Resources Action Team that is a subgroup of the Desert Managers Group (DMG). The DMG is responsible for the Mojave Desert Ecosystem Program.

## **G. Environmental and Mission Enhancement**

The cultural resources management program is well known within both within and outside of base boundaries. Articles in the *Observation Post* as well as regional newspapers provide information on new significant discoveries. Over the years the base has prepared booklets, posters, pamphlets, and traveling exhibits showcasing finds aboard the base. Staff has lectured at local schools. In addition to public outreach, the actions of the cultural resources program in developing a PA and an ICRMP has placed the installation into compliance with numerous cultural resources laws and policies, reducing the risk of injunction and lawsuit.

The Cultural Resources Section has developed a highly successful and efficient program to meet their historic preservation compliance goals. Thousands of acres have been inventoried and hundreds of sites have been or are being evaluated. Cultural resources have gained as significant sites are being preserved and managed and the Command has gained as many thousands of acres have been freed for their unrestricted use.

## **H. Cultural Resources Compliance**

The base's close proximity to Joshua Tree National Park affords MCAGCC's cultural resource staff regular opportunities to meet with their collegial counterparts. Our on-going relationships include discussions of local standards of research, distribution of cultural resources reports, and shared concerns regarding artifact care and conservation within our mutual desert ecosystem.

Federal agencies often discover the high costs associated with compliance of 36 CFR 79 for archaeological objects. Notably, at MCAGCC's Curation Facility, supply costs have been markedly reduced owing to the re-utilization of desiccant packets. These silica pellets can be recycled indefinitely. MCAGCC's Qualified Recycling Program (QRP) salvages the desiccants normally thrown away from the bottom of munitions containers. These desiccants, in the form of silica gel pellets, are then used to regulate and/or dissipate moisture/humidity from archived and curated materials. The retail value of this desiccant is approximately \$30 per pound. Recently a curation facility at a US Army installation, upon hearing about this desiccant re-use program at MCAGCC, has been able to obtain silica gel packets through a recycling program of their own.

MCAGCC's ICRMP integrally connects us to a working relationship with the CASHPO, the ACHP, the local Native Americans Tribes, and community groups. Our annually required HPCR, as mandated in the ICRMP, tracks our progress, enforcement, and cultural resources compliance

## Cultural Resources Section Budget Data

