

**FY2003 SECRETARY OF DEFENSE ENVIRONMENTAL AWARDS**  
**Cultural Resources Conservation, Large Installation**  
**Naval Air Weapons Station, China Lake, California**

**INTRODUCTION**

Naval Air Weapons Station (NAWS), China Lake, California is comprised of two separate and distinct locations: NAWS China Lake, and San Nicolas Island (SNI). NAWS China Lake is located in the military Land Ranges of the upper Mojave Desert of California, approximately 150 miles northeast of



Los Angeles, while San Nicolas Island is located within the Sea Range, approximately 65 miles southwest of Point Mugu. China Lake is composed of two ranges: the North Range, and the South Range. The North Range is located in 3 different counties (Kern, Inyo, and San Bernardino Counties), while the South Range is located entirely within San Bernardino County. Combined, the China Lake ranges occupy over 1.1 million acres (1,735 sq. miles) of withdrawn public land, and are the Navy's largest landholding.

The 9-mile long San Nicolas Island, located within California Channel Islands chain, consists of an additional 13,370 acres. The Environmental Planning and Management Department (EPMD) at NAWS China Lake manages cultural and historic resources found at both these locations.

**Mission-** Naval Air Warfare Center Weapons Division (NAWCWD), China Lake is responsible for the research, development, test, and evaluation of weapons systems for the Navy, Air Force, Army, Joint Service, commercial, and foreign military weapons systems. NAWS China Lake operates and maintains base facilities and provides support services, including airfield operations, for NAWS organizations, assigned tenants, and transient units. 17,000 square miles of restricted airspace blanket the station. NAWS China Lake manages all lands with the station's boundaries in support of the mission at China Lake, while maintaining environmental compliance and exercising responsible stewardship of public lands.

The Naval facilities at SNI support the mission of the NAWCWD Point Mugu Sea Range, which controls 36,000 square miles of Special Use Airspace over the Pacific Ocean. SNI's range support facilities include metric radars, telemetry antennas, receiver and transmitter facilities, a frequency monitoring station, and range communications facilities, missile launching pads, ordnance bunkers, surveillance radars, and target control facilities.

**BACKGROUND**

China Lake

The Integrated Cultural Resources Management Plan (ICRMP) was last revised on March 24, 2003. ICRMP provides guidance to establishing efficient and cost-effective compliance procedures, improving the Cultural Resources infrastructure, addressing data gaps in the Cultural Resources Inventory, and continuing to provide coordination and consultation for Public Relations-type efforts.

On NAWS China Lake, features listed on the National Register of Historic Places consist of the Coso Hot Springs NRHP District and Coso Rock Art National Historic Landmark (formerly called Little Petroglyph Canyon).



The Cultural Resources Program operates under a number of Agreement Documents. These include:

- Memorandum of Agreement Between NAWS and the Coso Ad Hoc Committee (Native Americans), June 1979
- Programmatic Memorandum of Agreement between The Commander, Naval Weapons Center, California State Historic Preservation Officer and Advisory Council on Historic Preservation, November 1979
- Data Sharing Agreements between NAWS, Bridgeport Indian Colony, Lone Pine Paiute, Timbisha Shoshone and Fort Independence Paiute Tribes.
- Programmatic Agreement among California SHPO and ACHP re: China Lake NAWS General Plan, 2003
- Integrated Cultural Resources Management Plan, China Lake NAWS, March 2003
- Agreement between Maturango Museum and China Lake, NAWS for Tours to Little Petroglyph Canyon, 2002
- Agreement between BLM Ridgecrest and China Lake NAWS to promote Rock Art Site Visits adjacent to the Base, May 2003.

### San Nicolas Island (SNI)

SNI has an outstanding cultural heritage. Over 500 Nicoleño Indian sites have been discovered and recorded on the island. Among these are villages, food processing sites, kitchen middens, and stone quarry sites. Unlike the historic influences on the island, which are relatively well documented, the culture of the original inhabitants is known almost exclusively through the archaeological record. This record consists primarily of artifacts and middens left behind by the early islanders.

Some artifacts are as elaborate as the petroglyphs (engraved pictures) and pictographs (painted pictures) of whales and sharks adorning the interior of the Cave of the Whales.



On the island, a 10,000 square-foot field station houses laboratories and a curation facility. Volunteers contributed 3500 hours to laboratory studies annually.

A comprehensive research design for San Nicolas Island's prehistoric resources was completed in 1994 and guides all research. Major archaeological programs now under way on San Nicolas Island include:

- Archival and oral-history studies
- Curation
- Geographic Information System (GIS) compilation
- Limited excavation
- Shipwreck inventory
- Specialized analyses
- Surveying and mapping
- Long Term Archaeological Field School



### Organization and Staffing

The Head of the EPMD directs the Cultural Resources Management Program. Two archaeologists manage resources on China Lake and SNI. Both meet the Secretary of Interior's Professional Standards and certified by the Register of Professional Archaeologists. Many aspects of the program are carried out through contracting with professional archaeologists, historians, historic architects and ethnographers. A strong volunteer program has also been established. These volunteers provide assistance to the curation facility and augment the Section 110 program.

### **PROGRAM SUMMARY**

#### Compliance Procedures

Cultural Resource Managers at NAWS China Lake have successfully implemented an efficient and cost-effective compliance procedure. This has been done by streamlining our Section 106 process through the development of a PA with the ACHP and the SHPO. Additionally, program managers work closely with the Station's National Environmental Policy Act (NEPA) coordinator who, with the staff archeologists, screens all activities to ensure compliance with NHPA. Managers developed and tested a model sensitivity map that predicts not only spots where sites are located, but where they are not located. This assists in expediting project reviews.

The goals and management principles of cultural resources at China Lake have been integrated into the station's Comprehensive Land Use Management Plan (CLUMP), an overarching management document required by the 1994 Desert Protection Act. The CLUMP provided a compatibility analysis that identified areas on the installation where resource constraints were present. This greatly facilitated compliance with Section 110 in a manner that focused on supporting the NAWS China Lake's mission. This included the development of a GIS database that accurately defined archeological and cultural areas of concern across all 1.1 million acres of NAWS China Lake.

### Cultural Resources Infrastructure

The bases have hired professional staff archeologists and continue to contract with the best specialists in the Great Basin, the desert Southwest and the California Coast. With the help of numerous volunteer assistants, curation facilities and archeological laboratories have been developed that meet the requirements of ARPA and 36 CFR 79. The curation facilities have been made accessible to Native Americans and the scientific public.

China Lake Law enforcement personnel were trained in the fundamentals of the Archaeological Resources Protection Act by participating in a formal class sponsored by the Bureau of Land Management. Contractors and volunteers are both taught about ARPA and the legal aspects of the Cultural Resources Management Program.

### Data Gaps

Over 5,000 acres have been inventoried at target areas in both the North and South Ranges at China Lake. Additional inventory of over 6,000 acres has been done in other known culturally sensitive areas, such as China Lake Basin, the Coso pinyon pine zone and at various natural springs. Inventory continues on an irregular basis in the Coso Rock Art NHL because the entire 35,000 acres contains spectacular archeological resources, some of the best known in the western hemisphere.



**Michelson Lab NRHP**

We have continued to verify locations of historic resources identified through archival studies. Government records, mining claims, homestead patents have identified historic pre-Navy sites. These continue to be important sites for understanding the importance of the history of the Base and continue to be inventoried, recorded, and studied. For example, a history of mining and the recordation of mill sites and mines on the station's South Range continues. Some of these mines are among the best preserved in the western United States.

To further identify resources of significance, the following resources were submitted to CNO to forward to the Keeper of the National Register:

- The B-4 High Speed Test Track
- The Supersonic Naval Ordnance Research Track (SNORT)
- Headquarters Building
- Hangar 1
- The Bennington Plaza Theater
- The Senior Officer's and Scientist's Quarters Historic District
- Michelson Laboratory NRHP
- China Lake Pilot Plant Historic District.

Future National Register nominations currently being prepared include the Cactus Flat Village, Sugarloaf Obsidian Quarry, Pothunter Springs Archaeological District, the Twenty Mule Borax Route on NAWS China Lake, the



19<sup>th</sup> century Coso Military Fort, the Seep Springs Archaeological District, Coso Village, Hidden Springs Archaeological District, Lake China Paleo-Indian District, and the Agnes Bierman Pictograph Caves District.

China Lake has contracted with ethnographers to work with the local Native Americans to identify potentially important tribal sites. Coordination with adjacent Ft. Irwin, and using their ethnographic overview has been beneficial and assists in developing appropriate contacts among the Native American tribes.

### Consultations and Public Relations

NAWS China Lake contains cultural resources that are of interest worldwide. Many tours have been conducted annually with historic preservation specialists, local and nationally elected officials and their staffs. Dozens of books, brochures, newspaper articles and professional papers are published on the cultural resources. Volunteers continue to document petroglyph sites. Last year over 1,000 hours of volunteer time was logged documenting the various petroglyphs in the Coso National Historic Landmark.

On-going lectures are given at the Maturango Museum by NAWS staff and by professional researchers about the cultural resources on base. Staff and volunteers also give talks to local elementary school classrooms. A new CD on the scratched petroglyph panels in the Coso Pinyon zone was produced by Far Western Anthropological Group. They also produced a video through a Sacramento PBS station called the “Obsidian Trail” about the distribution of obsidian originating within China Lake NAWS.

Of particular interest is the Rock Art found within the Coso Rock Art National Historic Landmark and particularly at Little Petroglyph Canyon, which is open to the public through the Base’s Petroglyph Escort Program. The Base has developed a brochure about the various theories attributed to the creation and meaning of the rock art. We developed a video tape of the Coso Rock Art and have disseminated it through the local Maturango Museum in Ridgecrest.

This year at Little Petroglyph Canyon, NAWS China Lake replaced 25 year-old pit toilet houses with a new handicap accessible concrete bathroom facility. Volunteers helped level the facility and did the finish work on the landscaping around the new facility.



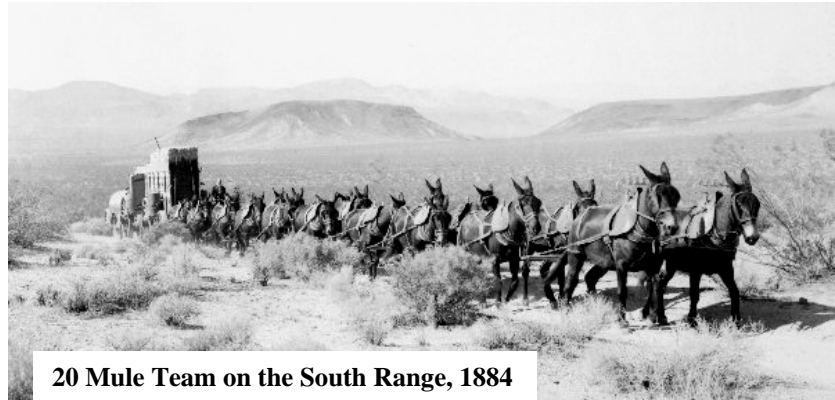
## **CULTURAL RESOURCES CONSERVATION ACCOMPLISHMENTS**

### **Overall Cultural Resource Management**

The management of cultural resources on 1.1 million acres NAWS China Lake and SNI with limited staff can be a daunting task. The program has great breadth and involves a myriad of resources from early humans at least 12,000 years ago to homesteads, mines, historic roads, and grazing leases of the middle 20<sup>th</sup> century. While the Coso Rock Art District is the most famous destination point on China Lake, it wasn’t always so. Desert Magazine advertisements from as early as February 1942 entice the public to come to the South Base to look at petroglyphs or to see the hideouts of the infamous bandit Tiburcio Vasquez.

Cultural resources management has become part of the regular process of managing the resources and accomplishing the mission at China Lake NAWS. Preservation of undisturbed cultural and historic resources remains one of the stewardship priorities of the Cultural Resources Program. We coordinate well with Public Works and the various divisions of NAWS to ensure that we do not interfere with Base missions yet provide a necessary tool to enhance the Base's knowledge of its heritage. One of the best management strategies used by the Program is to assist project proponents in developing their proposed actions to occur within those areas that have been previously disturbed or already developed. Specifically, the preservation of prehistoric cultural sites is best done by promoting the use of previously disturbed sites.

Our ICRMP, plan and inventory are up to date and are models for other Bases to use. We have inventoried approximately 12% of the Base's 1.1 million acres and have two districts listed in the National Register of Historic Places. Eight nominations were submitted to CNO in FY 03, and ten others are being modified, updated or rewritten.



**20 Mule Team on the South Range, 1884**

### **Historic Buildings and Structures**

All of our buildings have been evaluated for their historic significance. A total of 159 buildings, including Cold War era facilities, contained in 3 districts and 5 sites have been determined to be eligible for listing in the National Register of Historic Places. These nominations have been forwarded to CNO for processing. 1251 buildings have been determined not be eligible for listing. Many of these have been removed including over 500 residential units at main site. Repair and maintenance were significant and not in keeping with the mission of the Station. In working with the California SHPO it was agreed that they would support the removal of the housing units and other ineligible properties.

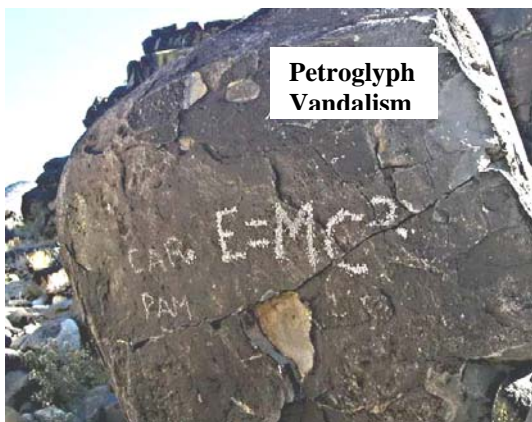
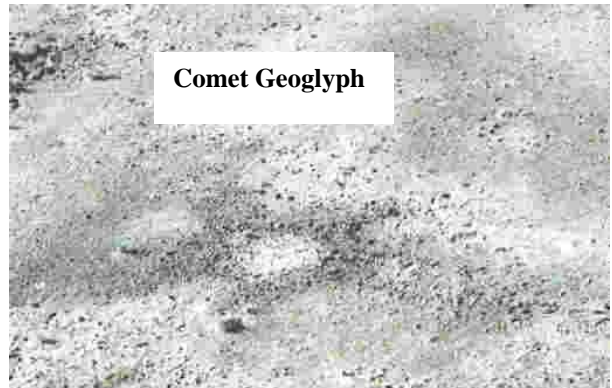
The Cultural Resources Program promotes and provides examples to other departments on the benefits of Adaptive Reuse. For example, an icehouse at China Lake, originally constructed in 1944, was upgraded into a Curation Facility. With the help of volunteers, both civilian and military, the NAWS China Lake was able to adaptively reuse 3500 square feet of the ice house to properly store artifacts and to promote an archaeological laboratory staffed by volunteers. The staff archaeologist coordinates the use of the facility.

### **Archaeological Resources**

Over 1300 archeological sites have been inventoried and evaluated for the National Register. It is predicted that over 10,000 archaeological sites situated on the Station. Two sites (districts) are presently listed in the National Register, 10 more are in process of being nominated.

A new type of cultural resource to the Base, called geoglyphs, has recently been documented. These sites are rock alignments often better viewed from the air. They are enigmatic because it is difficult to assign dates or cultural phases to the sites. Because of their rare nature they are considered to be eligible for listing.

Not all archeology has been found in the field. During the past year over 500 Black and White photographs of archaeological work done in the 1940s were recently discovered. Collections from five archaeological sites were recently returned to the Base helping to close a gap in the database. Additionally, Cultural Resource Manager at NAWS China Lake was able to locate and interview an archaeologist who worked here in the 1940's. This interview provided answers to many questions that remained a mystery for over 50 years!



NAWS China Lake aggressively pursues site protection and compliance enforcement. Most of the sites are physically protected by the perimeter fencing or by the large size and remoteness of China Lake. ARPA training otherwise protects these sites by the China Lake police department and by site volunteers and petroglyph escorts. A base map and inventory list of vandalism at Little Petroglyph Canyon was made in 2002, the escorts have a copy of that document and they use it regularly to monitor condition of the resources.

Professional contracted archaeologists conduct data recovery efforts. Data recovery includes sophisticated tests on obsidian origins (sourcing), dating and blood residue analysis (where did the obsidian originate, when and what did they procure with the obsidian tools). Artifacts are collected which are temporally significant such as projectile points, bows, arrows, and historic bottles or cans, and now go to our Curation facility for storage and research.

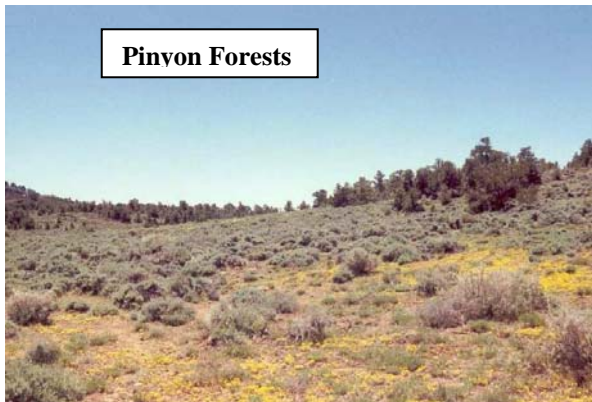
In situ preservation is the preferred manner in which to manage cultural resources. Typologically significant artifacts, fragile resources, and unique or rare resources are removed and stored in our curation facility. Most others are left in the field as a way of preserving our China Lake NAWS heritage.

### **Native American Program**

China Lake NAWS was the first government entity to enter into an agreement with local tribes to access resources on a secure military base. This agreement is still in effect 24 years after it was signed. The Commanding Officer of NAWS China Lake has met semi annually with all of the local federally recognized tribes. This high level consultation has paved the way for improved relationship and information sharing with the local tribes.

Two sacred sites are known to be located on the North Range. These are the Prayer Site and Coso Hot Springs. Both are listed in the NRHP.

Over 100 Native Americans, through our 1979 MOA have visited the Coso Hot Springs and Prayer site for traditional purposes on at least 8 occasions between 2000 and 2003. Native peoples use clays from the Hot Springs for medicinal purposes.



NAWS China Lake has extensive pinyon forests. These pinyons also provide an important cultural resource to local Native American tribes in the form of pinyon nuts. Preservation of this forested traditional cultural area is a major focus of the Cultural Resources Program at China Lake.

China Lake NAWS completed its NAGPRA inventory and held an open house for tribes to examine the culturally affiliated materials. Several items including human remains will be repatriated to tribes at their request.

### **Curation**

Our curation facility was created in FY 2003. It is 3500 square feet with over 1000 linear feet of shelving for storage. Over 400 cubic feet of collection boxes are stored in the facility. The old icehouse was an excellent choice as a facility because it is earthquake proof and fireproof. The facility was created by volunteers from both the military and civilian sides of the Station obtaining material and labor from the community at large. By the use of volunteers we saved over \$30,000 the first year of operations.



Our collection is under management of the staff Archeologist. Volunteers work approximately 100 hours per week at the facility and a contracted anthropologist spends 10 hours there. As additional collections are returned to the Base it will be opened more hours for research. Other federal agencies may house their collections here while studying or organizing them.

### **Cultural Resources Awareness and Public Education**

There are numerous interpretation documents and volunteer programs available to the public. Over 3000 volunteer hours were donated as a result of our petroglyph escort training program per year. Over 2000 hours of volunteer efforts were donated at our curation facility. Education opportunities available to the public include Video Tapes, C.D. ROM's, and guided tours to the Petroglyph sites. The staff archaeologist and the volunteers, including the Petroglyph Escorts, work closely with scouts, schools and other civic groups. Our staff archaeologist worked with two boy scout troops so they could get the archaeology merit badge, one of the most difficult to obtain.

The Cultural Resources Program is involved in numerous research initiatives and provides opportunities for scientific contributions and published papers. These include:

- Dr. Mark Basgall is attempting to correlate ancient artifacts with bones from extinct megafauna. using the Emma Lou Davis Collection from the Lake China Basin.



- Alan Gold is working on the base to attempt to correlate projectile point types with the projectile point petroglyphs found on the Base
- Dr. Jelmer Eerkens has been working with both obsidian and pottery samples to classify obsidian and understand the origin and distribution of pottery in the Great Basin.
- Dr. Richard Hughes is analyzing a newly discovered obsidian source site.
- Maturango Museum is working on the life of Agnes Bierman who, as a student, excavated several sites on the South Range under the guidance of famed archaeologist Robert Heizer of UC Berkeley.
- Dr. William Clewlow is studying rock alignments in the vicinity of Lake Searles on the South Base
- Dr. William Hildebrandt is studying the origin of bow and arrow technology and its relationship to the demise of the Coso Range bighorn sheep population.
- Many researchers are studying the style, form and function of the Coso NHL petroglyphs
- Dr. Patricia Martz, California State University, Los Angeles is excavating sites at SNI.

**SNI RESEARCH  
EXCAVATION**



Papers on all of these topics and more will be presented at an upcoming symposium regarding the Management of Cultural Resources at China Lake, NAWS.

Cultural Resources Staff are affiliated with the National Trust for Historic Preservation, the Society for California Archaeology, the Society for California Archaeology, the American Anthropological Association, ICOMOS, the Friends of the Calico Early Man Site, the American Rock Art Association, The Center for the Study of Early Man, the Malki Museum, the Maturango Museum and many more organizations. The staff archaeologist is a Director for the East Mojave Historical and Cultural Association past President of the Society for California Archaeology and served as a Historical Resources Commissioner under Governor Pete Wilson.

**Environmental Enhancement**

Through its active volunteer program and petroglyph tours, NAWS China Lake has integrated the local community and installation employees into the Cultural Resources Program. Many previous and present Commanding Officers participated and continue to participate in Volunteer opportunities provided by this program. This extensive public and employee outreach effort has provided an enhanced awareness of the value of the cultural resources of the area, and a wide commitment from many different folks to continue to preserve and enhance the cultural resources on NAWS China Lake

**Mission Enhancement**

The Cultural Resources Program assists in enhancing an understanding of the mission through providing the public an opportunity to learn about the history of the Base's cultural resources.

To understand the role of the NAWS mission is to comprehend the connection between the past and current base research. Following the end of the Second World War, NAWS China Lake



engaged in Cold War development of American Military Technology. Although the situation around the world continues to evolve, the role of China Lake in meeting new technology demands hasn't changed. The Cultural Resources Program, through the Museum of Armaments and Military Technology, located on the installation and open to the public, promotes this understanding of the installations 60-year history and it's connection to the latest of military technological demands and achievements. Understand the historical context of the NAWS mission promotes and enhances the ability of the military to meet its changing mission requirements.

### **Cultural Resource Compliance**

NAWS China Lake is in full legal compliance with all laws, requirements, and directives for managing Cultural Resources on a military installation. The Staff archaeologist is the co-Chair of the Paleontology and Cultural Resources Action Team (PACRAT), a subgroup to the California Desert Managers. It serves to coordinate among all federal, state and county agencies as well as with tribes for compliance issues. Last year, the Governor's Award for Historic Preservation was presented to NAWS China Lake as a result of its ability to comply with the laws and protect its cultural resources while furthering its mission. It is the only military base in California ever to receive this highly coveted Governor's award.

Cultural Resources Program Management is funded through the ERMS lifecycle process. All cultural resources one-time and recurring projects have been identified and all data provided in full support of those projects, out to FY11. Funding sources include O&MN and MRTFB.

Environmental Planning and Management Division has worked effectively with all the necessary project driven components of NAWS and its contractors to ensure that we fully comply with section 106 requirements prior to ground disturbing activities. We work closely with ARPA-trained China Lake Police who patrol the backcountry. We also work with defense contractors by having meetings with them where we discuss the legal aspects of CRM and why it is inappropriate as well as illegal to remove or effect our heritage.

China Lake NAWS manages the Coso Rock Art NHL consisting of 35,000 acres with limited funds. We are able to use volunteers to sponsor tours, to monitor the site condition, and to maintain public toilet facilities. Volunteers also give talks about the significance of the area. The Maturango Museum was able to make approximately 24% of their budget from tours in FY 2002. The Ridgecrest Chamber of Commerce says that the petroglyph tours are an extremely significant part of the community's heritage tourism, an aspect of the Cultural Resource Management program that can grow in partnership with the BLM, Park Service and tribes.

***Cultural resources management at both NAWS China Lake and SNI will continue to focus on conserving, protecting, understanding, and enhancing cultural and historic resources while ensuring military access to NAWS China Lake and SNI lands and waters in direct support of the mission.***