Department of Defense
Legacy Resource Management Program

CULTURAL RESOURCES *UPDATE*

August 2010 Volume 7, Number 7

The Legacy Program RFP for fiscal year 2011 has expired.

One-hundred ten Legacy Program project pre-proposal submissions were received for cultural resources projects, the highest number ever received for the cultural resources component of the Program.

This is a 96% increase from fiscal year 2010, and a 102% increase on the average cultural resource pre-proposal submission totals from fiscal year 2007 through fiscal year 2010.

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A unique potential DoD resource for promoting federal sustainability goals is the large inventory of military buildings listed or eligible for listing on the National Register of Historic Places. In addition to the use of historic properties to the maximum extent feasible for heritage reasons, there are also compelling economic reasons to investigate the reutilization of historic infrastructure. The Department has set an aggressive 34 percent greenhouse gas emissions-reduction goal and has been increasingly looking at strategies for the "greening" of its real property, including the historic properties that it manages. By preserving or renovating significant historic properties in accordance with the Secretary of the Interior's (SOI) Standards, DoD installations can revitalize original energy conservation features. Strategies can be used that would preserve the integrity of a historic building while contributing to better energy management and reduced life-cycle costs Department-wide.

One aim of DoD's historic preservation community it to emphasize the rehabilitation of existing facilities, rather than new construction. A compelling argument can be made that appropriate rehabilitation and reuse of existing facilities is the single most important way for an installation to improve its sustainability rating and lead to improving general Department energy management goals, while meeting current and developing mission requirements.

To date, the DoD Legacy Resource Management Program has funded several projects that would aid in the Department's look to increased energy management, correlating historic properties and sustainability. Published in 2007, *The DoD Sustainability Application Guide for Historic Properties* (Legacy project 04-220) compares and aligns Federal cultural heritage and sustainability requirements, methodologies and metrics in order to identify where they are mutually supportive. Furthering that work, final reports are currently being completed for four projects from fiscal year 2009. Generally, these projects seek to identify design and construction processes, building systems upgrades, alterations and practices that can enhance sustainable design elements while maintaining historic character and integrity. They also seek to identify historic building elements that are efficient by design, or historic elements that are inherently sustainable. One project looks at how to adaptively reuse BRAC-ed properties.

Visit DoD's webpage http://www.defense.gov/home/features/2009/0809_green/ for more on DoD's general "green" endeavors or DoI's webpage http://www.doi.gov/greening for more on the "Sustainable Buildings Implementation Plan".

CONFERENCES, MEETINGS, AND MORE

PECOS CONFERENCE
PLACE: SILVERTON, CO
DATE: 12-15 AUGUST 2010

DOD CENTCOM HISTORICAL/ CULTURAL ADVISORY GROUP ANNUAL MEETING
PLACE: TAMPA, FL
DATE: 17-18 AUGUST 2010

NATIONAL REGISTER/ NATIONAL HISTORIC LANDMARK WORKSHOP
PLACE: VIRGINIA CITY, NV
DATE: 28-29 SEPTEMBER 2010

NATIONAL TRUST FOR HISTORIC PRESERVATION ANNUAL MEETING
PLACE: AUSTIN, TX
DATE: 27-30 OCTOBER 2010

NAGPRA AT 20 SYMPOSIUM
PLACE: WASHINGTON, D.C.
DATE: 15-16 NOVEMBER 2010

ARCHAEOLOGICAL INSTITUTE OF AMERICA ANNUAL MEETING
PLACE: SAN ANTONIO, TX
DATE: 6-9 JANUARY 2011

DOD HISTORIC BUILDINGS CONFERENCE
PLACE: SAN DIEGO, CA
DATE: TBA

SOCIETY FOR AMERICAN ARCHAEOLOGY ANNUAL MEETING
PLACE: SACRAMENTO, CA
DATE: 30 MARCH– APRIL 3 2011

WHY DOES THE PAST MATTER? (SYMPOSIUM)
PLACE: UNIVERSITY OF MASSACHUSETTS AMHERST, MA.
DATE: 4-7 MAY 2011

White House Tribal Nations Conference Report

Last month, the White House released the summary report from the White House Tribal National Conference, held on 5 November 2009. The report outlines the policy agenda and the recommendations that were developed at the Conference.

President Obama, joined by Members of Congress, several cabinet secretaries and other senior administration officials from the Departments of State, Justice, Commerce, Education, Energy, Agriculture, Labor, Health and Human Services, Housing and Urban Development, the Interior, and the Environmental Protection Agency met with leaders invited from all 564 Federally-recognized tribes to forge a stronger relationship with tribal governments during the Conference. The President signed a memorandum at the conference, directing Federal agencies to submit detailed plans of actions on how they intend to secure regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, as defined by Executive Order 13175. Agencies are currently in the process of implementing these plans.

As tribal leaders and administration officials at the Conference expressed their visions for the future and identified the obstacles that must be overcome to reach their goals, the following needs and policy recommendations emerged:

- Strengthening the Government-to-Government Relationship
- Health Care
- Public Safety
- Education
- Sustainable Economic Development
- Environment
- Respect for Cultural Rights

The full report can be found at http://www.whitehouse.gov/sites/default/files/rss_viewer/tnc_progress_report.pdf

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The *America's Great Outdoors* Initiative

On 16 April 2010, President Obama signed a Presidential Memorandum establishing the America's Great Outdoors Initiative to promote and support innovative community-level efforts to conserve outdoor spaces and to reconnect Americans to the outdoors. More than fifteen public Listening Sessions are being held across the country this summer, each highlighting a different aspect of the Initiative. The focus of the 27 July Listening Session in Philadelphia was historic preservation. That discussion centered on connecting community-based historic preservation and recreation, heritage education and building upon State, local, private and tribal priorities for historic preservation.

The Presidential Memorandum calls on the Secretaries of the Interior and of Agriculture, the Administrator of the Environmental Protection Agency (EPA), and the Chair of the Council on Environmental Quality (CEQ) to lead the Initiative, in coordination with the Departments of Defense, Commerce, Housing and Urban Development, Health and Human Services, Labor, Transportation, Education, and the Office of Management and Budget. The Initiative will support a 21st century conservation agenda that builds on successes in communities across the country, and will start a national dialogue about conservation that supports the efforts of private citizens and local communities.

Visit http://www.doi.gov/americasgreatoutdoors/ to contribute to the dialogue or for more information on the Initiative.

NAGPRA at 20

The Department of Interior's National NAGPRA Program will host a symposium on the 28th and 29th of September. Marking the 20th anniversary of the passage of the law, "NAGPRA at 20" will be a two-day public symposium aimed to critically assess and evaluate the first two decades of implementation through case studies, workshops and featured speakers. The goal of the symposium is to work toward a shared vision for tribes, museums, Federal agencies and the National NAGPRA program on the direction NAGPRA should take for the next ten or twenty years. The symposium will be held at George Washington University in Washington DC. For more, visit http://www.nps.gov/nagpra/TRAINING/NAGPRA_at_20.html.

In addition to the symposium, NAGPRA at 20, the National NAGPRA Program offers basics training and webinars. For more information, visit http://www.nps.gov/nagpra/TRAINING/INDEX.htm

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Secretary of Defense Environmental Awards 2010

The Department has announced the winners of the 2010 Secretary of Defense Environmental Awards (for fiscal year 2009). A panel of judges representing federal and state agencies, academia, and the public has selected the following installations, teams, and individuals as the winners of this year's awards:

Fort Custer Training Center, Michigan Army National Guard
Natural Resources Conservation – Small Installation

Camp Guernsey, Wyoming Army National Guard
Cultural Resources Management – Installation

Marine Corps Base Hawaii
Environmental Quality – Non-industrial Installation

Fleet Readiness Center Southwest, California
Sustainability – Industrial Installation

Hill Air Force Base, Utah
Environmental Restoration – Installation

Mr. Stephen M. Seiber, Eglin Air Force Base, Florida
Natural Resources Conservation – Individual/Team

Mr. Awni M. Almasri, Naval Facilities Engineering Command Europe Africa Southwest Asia
Environmental Quality – Individual/Team

Ms. Regina Dixon Butler, Patrick Air Force Base, Florida
Environmental Restoration – Individual/Team

Aeronautical Systems Center Environmental and Occupational Health Team,
Wright-Patterson Air Force Base, Ohio
Environmental Excellence in Weapons Systems Acquisition – Team

Each year since 1962, the Secretary of Defense has honored individuals, teams, and installations for their outstanding achievements to conserve and sustain the natural and cultural resources entrusted to the Department of Defense. For more information on the Secretary of Defense Environmental Awards and highlights of this year's winners and honorable mentions, please visit https://www.denix.osd.mil/portal/page/portal/Awards

(The following pages highlight the three installation CRM program winners for 2010…)

Seminars, Courses, And more

Archaeological Resources Protection Training—FLETC Course
Place: Vandenberg AFB, Santa Maria, CA.
Date: 23-27 August 2010
Email: Charles.Louke@dhs.gov

ACHP Section 106 Advanced Course
Place: Cincinnati, OH
Date: 9 September 2010

NPI—NEPA Compliance & Cultural Resources
Place: Topeka, KS
Date: 13-14 September 2010

ACHP Section 106 Essentials Course
Place: Washington, D.C.
Date: 21-22 September 2010

NPI—Preservation Planning for Campuses, Complexes a nd Installations
Place: Hampton, VA
Date: 28-29 September 2010

NPI—NAGPRA: Determining Cultural Affiliation
Place: Phoenix, AZ
Date: 4 October 2010

NPI—NAGPRA: Summaries, Inventories and Federal Notices
Place: Phoenix, AZ
Date: 5 October 2010

ACHP Section 106 Essentials Course
Place: Austin, TX
Date: 26-27 October 2010

FY 2009 Secretary of Defense Environmental Awards

Wyoming ARNG Camp Guernsey

Cultural Resources Management, Installation

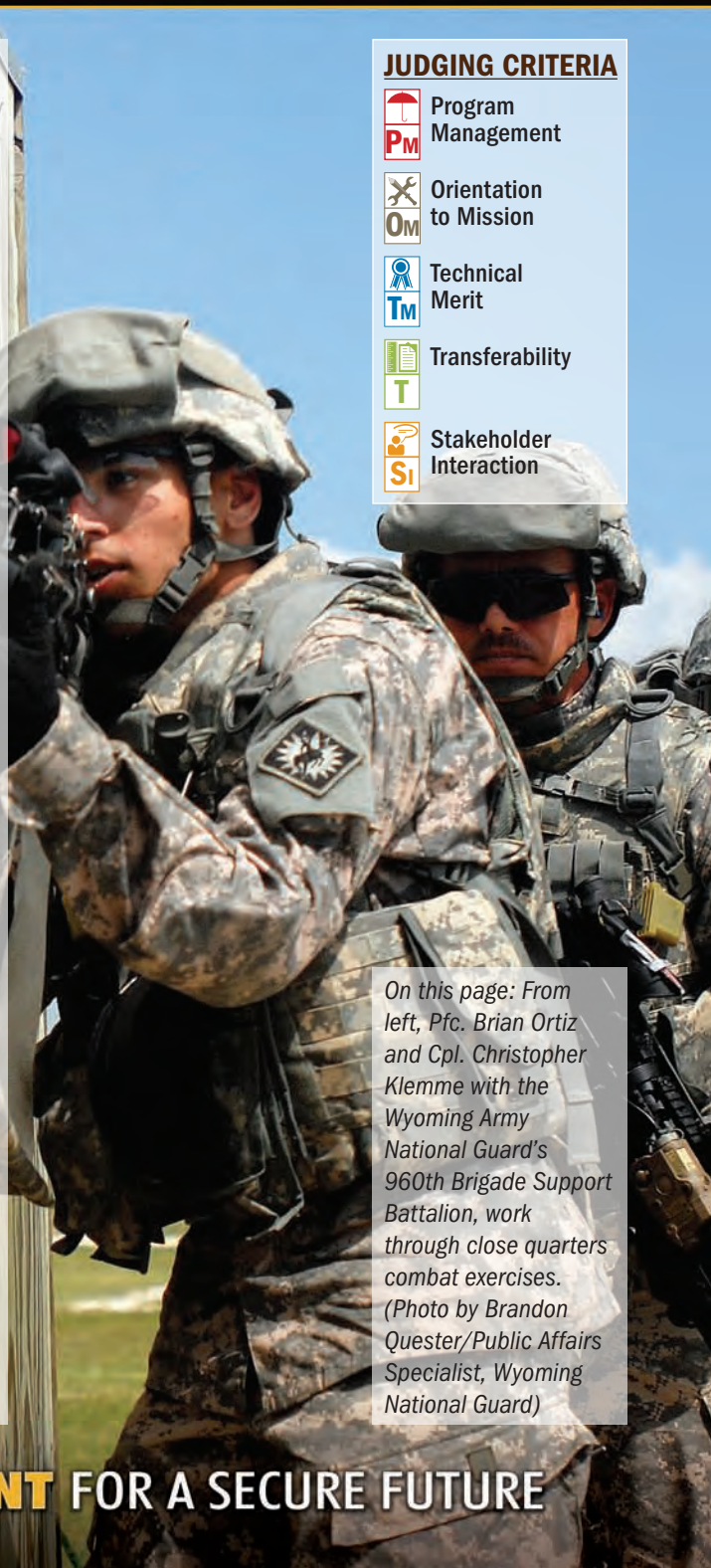
INTRODUCTION

Located in east-central Wyoming along the historic Oregon Trail, Camp Guernsey Joint Training Center is the Wyoming Army National Guard's (WYARNG) premier training facility and the centerpiece of the WYARNG's cultural resources management (CRM) program. With 65,454 acres classified as a Maneuver Training Center-Heavy, the primary focus of Camp Guernsey is to provide a major training area for Wyoming Army and Air National Guard units as well as active duty Army, Navy, Air Force and Marines. The training site is also one of only five Air Force-designated regional training centers in the country and houses a Department of Defense (DoD) Joint Training and Experimentation Center for robotics research and development in unmanned air- and ground-based vehicles. Rolling hills, tablelands, and rough, broken terrain characterize the general area and as a result, Camp Guernsey has become known as an ideal location for military training because it shares similarities with the terrain in Afghanistan.

The town of Guernsey has a population of approximately 1,100 with Camp Guernsey employing 123 federal military technicians and state of Wyoming civilian personnel. With multiple units from all branches of the military services concurrently reliant on Camp Guernsey for training, stewardship of cultural resources is critical to mission readiness. All of Camp Guernsey's lands were or are currently being surveyed for cultural resources. Nearly 1,000 sites have been documented, including prehistoric and historic archaeological sites, several Native American traditional cultural properties, nationally significant Oregon Trail resources, historic homesteads and the New Deal-era Camp Guernsey Cantonment Historic District. The entire facility and all acres of Camp Guernsey's military training lands are covered under the WYARNG Integrated Cultural Resources Management Plan (ICRMP) for 2009-2013.

JUDGING CRITERIA

- PM Program Management
- OM Orientation to Mission
- TM Technical Merit
- T Transferability
- SI Stakeholder Interaction

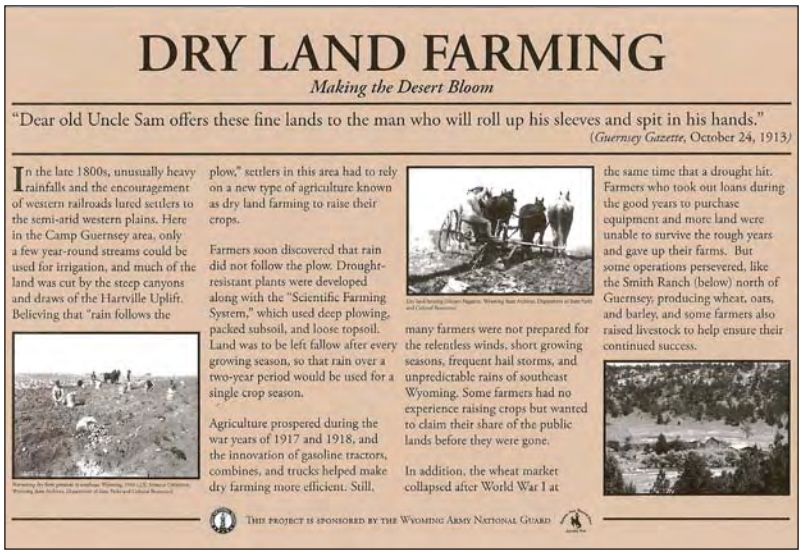


On this page: From left, Pfc. Brian Ortiz and Cpl. Christopher Klemme with the Wyoming Army National Guard's 960th Brigade Support Battalion, work through close quarters combat exercises. (Photo by Brandon Quester/Public Affairs Specialist, Wyoming National Guard)

SUSTAINING THE ENVIRONMENT FOR A SECURE FUTURE

BACKGROUND

Camp Guernsey's CRM program, housed within the environmental section of the WYARNG Construction and Facilities Management Office (C&FMO), ably meets the challenge of balancing Camp Guernsey's cultural wealth with mission goals. The cultural resources manager works directly with environmental professionals, contract archaeologists and Geographic Information Systems (GIS) technicians. Environmental personnel coordinate daily with Camp Guernsey range control, Integrated Training Area Management, master planning, real property, engineering and command staff to ensure coordination of mission goals and operations with environmental sustainability. Camp Guernsey's initial ICRMP was prepared in 2004, and the comprehensive revision was completed in-house by the WYARNG cultural resources manager in 2009. Over the past two years, the Camp Guernsey CRM staff accomplished a number of program milestones, most notably: the successful completion of a DoD Legacy Resource Management Program funded project; increased preservation of Oregon Trail historic sites; preparation of a historic context and public education component for historic homesteads and ranching sites; and implementation of a Native American ethnographic study and traditional cultural properties survey.



DRY LAND FARMING

Making the Desert Bloom

"Dear old Uncle Sam offers these fine lands to the man who will roll up his sleeves and spit in his hands."
(*Guernsey Gazette*, October 24, 1913)

In the late 1800s, unusually heavy rainfalls and the encouragement of western railroads lured settlers to the semi-arid western plains. Here in the Camp Guernsey area, only a few year-round streams could be used for irrigation, and much of the land was cut by the steep canyons and draws of the Hartville Uplift. Believing that "rain follows the plow," settlers in this area had to rely on a new type of agriculture known as dry land farming to raise their crops.

Farmers soon discovered that rain did not follow the plow. Drought-resistant plants were developed along with the "Scientific Farming System," which used deep plowing, packed subsoil, and loose topsoil. Land was to be left fallow after every growing season, so that rain over a two-year period would be used for a single crop season.

Agriculture prospered during the war years of 1917 and 1918, and the innovation of gasoline tractors, combines, and trucks helped make dry farming more efficient. Still, many farmers were not prepared for the relentless winds, short growing seasons, frequent hail storms, and unpredictable rains of southeast Wyoming. Some farmers had no experience raising crops but wanted to claim their share of the public lands before they were gone.

In addition, the wheat market collapsed after World War I at the same time that a drought hit. Farmers who took out loans during the good years to purchase equipment and more land were unable to survive the rough years and gave up their farms. But some operations persevered, like the Smith Ranch (below) north of Guernsey, producing wheat, oats, and barley, and some farmers also raised livestock to help ensure their continued success.

This project is sponsored by the Wyoming Army National Guard

Educational signs at Camp Guernsey, such as this one, document the historic homesteads of the late 19th and early 20th centuries. The creation of educational signs was part of an initiative to identify the descendants of homesteading families, collect oral histories and document the history of dry-land farming in the region.

PROGRAM SUMMARY

The CRM office developed the concept of shared resource stewardship with both internal and external stakeholders to encourage interest and participation above and beyond the required regulatory compliance process. In every respect, Camp Guernsey excels at balancing the WYARNG mission with an appreciation of state history. For example, one unique CRM project involved identifying the descendants of homesteading families, collecting oral histories and documenting the history of late 19th and early 20th century dry-land farming in the region. Interpretive signage and an educational Web site were developed as part of this project so this important time in Wyoming's history can be shared with Camp Guernsey personnel, troops training on the lands and the general public.

The WYARNG ICRMP includes a detailed description of the Camp Guernsey installation, a historic and cultural context and an overview of inventory status, resource evaluation and compliance and management activities through 2013. The plan outlines six standard operating procedures (SOP) to assist all users of Camp Guernsey and provides basic guidance for the most common situations that have the potential to impact cultural resources. In addition, a seventh stand-alone SOP completed in 2008 presents a comprehensive plan for the protection of cultural resources in wildfire management including pre-treatment and fire prevention, fire suppression and post-fire rehabilitation.

ACCOMPLISHMENTS

Overall Cultural Resources Management

The Camp Guernsey CRM staff successfully employs many initiatives to better utilize funds and reduce operational costs. The cost savings of completing the ICRMP by a qualified staff expert is more than $70,000. Completing a GIS cultural resource database and map in-house saved approximately 270 job hours between 2008 and 2009; this eliminates the time-consuming task of plotting military activity requests on individual

cultural resource inventory maps and cross-referencing each cultural site with paper survey reports. The WYARNG also entered into a cooperative agreement with the Wyoming State Historic Preservation Office (SHPO) Cultural Records Office to digitize nearly 20 years of inventory reports and site forms. These resources are now available online through a secure Internet Web site housed by the SHPO. This project was completed at a minimal cost to the WYARNG ($20,000 vs. $45,000 for a General Services Administration contract) and assists both agencies in CRM responsibilities.

Currently, 911 of 975 documented cultural resource sites at Camp Guernsey have been evaluated for eligibility to the National Register of Historic Places, leaving only 64 with undetermined National Register status. Of the 975 archaeological and historic sites, 190 are considered federally protected because of their National Register of Historic Places eligibility. An additional 122 sites contain features of interest and concern to Native American Indian tribes and therefore, are also considered protected under Camp Guernsey CRM.

The WYARNG C&FMO uses a Project Tracker system to assist in management of construction projects. The tracker system provides an easy-to-use spreadsheet of construction projects with funding and contract information, environmental review status, start date and estimated completion date. This management system allows environmental staff to integrate environmental requirements early in the planning process to ensure project sustainability and Section 106 compliance.

The installation's CRM program is proactive in seeking ways to expand and leverage environmental budget resources. The CRM office obtained DoD Legacy Project funds of $44,400 to prepare an SOP to consider the effects of fire to Native American traditional cultural sites before, during and after wildfire incidents. The project, which provided a cost efficient approach in forward planning and prevention and is an example of proactive stewardship, was successfully completed in 2008. In 2009, the CRM office submitted an application to the Wyoming SHPO Historic Architecture Assistance Fund to obtain the services of a professional architect to recommend stabilization methods at a unique historic homestead dugout structure in Camp Guernsey's North Training Area. The application was successful, and the SHPO provided $2,500 to fund the architect.

Historic Buildings and Structures

Camp Guernsey has evaluated all buildings for historic and architectural significance, including their status under Cold War-era criteria. Real Property Historic Preservation Codes are current and accurate. A total of 37 buildings in the Camp Guernsey Cantonment Historic District are at least 50 years old, and 29 are eligible for the National Register of Historic Places. The National Register-eligible historic district was constructed during the New Deal era with Works Progress Administration labor. The 75th anniversary of the New Deal took place in 2008, and the CRM office developed a presentation highlighting the locally quarried sandstone structures built during that period. An educational poster visually displays the differences in stone masonry techniques between the beginning of Camp Guernsey's construction in 1939 (using cut stone blocks carefully laid in horizontal courses) and construction after January 1941 (when random rubble stone was laid in irregular patterns to increase the speed of construction because of the threat of war).

Building 301 is an excellent example of the unique historic stonework in Camp Guernsey's cantonment area constructed with locally quarried sandstone as a Works Progress Administration project in the New Deal era.

The Camp Guernsey historic district is managed in accordance with a Management Plan for Historic Properties and a Facilities Excellence Plan completed in 2007. Camp Guernsey has adapted several buildings in the historic district for reuse to meet the changing WYARNG mission. A

rehabilitation project at a WWII-era recreation facility and canteen remodeled the interior to become a state-of-the-art classroom facility. An interior rehabilitation project at another building changed its historic use as a latrine to a troop laundry. In 2009 a federally funded economic stimulus project was identified to upgrade the windows in 24 historic buildings at Camp Guernsey. Through sensitive project management, careful selection of replacement window material and close and constant coordination with the SHPO throughout the course of the project development, it was determined that the Camp Guernsey historic district and contributing buildings would not be adversely affected by the undertaking.

Archaeological Resources

Camp Guernsey is rich in prehistoric and historic period archaeological sites. The region has one of the highest prehistoric site densities in Wyoming. Indigenous people continuously visited and occupied Camp Guernsey lands for thousands of years. Types of prehistoric archaeological resources include rock shelters, open camp sites with teepee circles, ceremonial stone rings and alignments, stone procurement quarries, lithic artifact scatters and Native American pictographs and petroglyphs. Types of historic archaeological sites include mid-19th century Oregon Trail sites and structural remains of late 19th and early 20th century homesteads and ranches, as well as trash dumps and artifact scatters, mining prospect features, railway features, a packing plant, stone quarry, copper smelter and a Civilian Conservation Corps golf course segment.

Camp Guernsey has many sites associated with the nationally significant historic Oregon Trail, including wagon trail ruts and swales, potential emigrant grave sites, campsites and pioneer inscriptions. In June 2009, local and regional wagon train enthusiasts conducted a reenactment of emigrants traveling along the Oregon Trail across Camp Guernsey lands. Camp Guernsey supports members of the Oregon-California Trails Association to place trail markers along ruts and swales to delineate trail segments on the landscape. Recognizing the importance of the "Warm Springs" site noted in emigrant diaries and journals, Camp Guernsey has designated the area as "foot traffic only" so its historic character can be retained. CRM and natural resource staff are planning projects to manage and interpret the springs through funding sources such as the State of Wyoming Cultural Trust Fund and National Public Lands Day Legacy awards.

In 2008, Camp Guernsey began a 100 percent cultural resource inventory of the recently acquired 22,000-acre Gray Rocks Ranch adjacent to the South Training Area. The survey is essential for the WYARNG's strategy of proactive protection of significant archaeological and historic sites through advance avoidance measures.

Native American Program

The WYARNG Native American program began in 2003. The CRM office now conducts annual consultation meetings with 18 participating tribes including the Blackfeet, Southern Arapaho, Southern Cheyenne, Cheyenne River Sioux, Chippewa Cree, Comanche, Confederated Salish and Kootenai, Crow, Eastern Shoshone, Fort Peck Assiniboine and Sioux, Kiowa, Northern Arapaho, Northern Cheyenne, Northern Ute, Oglala Sioux, Rosebud Sioux, Shoshone-Bannock and Sisseton-Wahpeton Oyate. Meetings feature program updates, information sharing, discussions of management recommendations, project reviews and site visits. The 2009 tribal consultation meeting included a field trip,

Camp Guernsey's Oregon Trail resources provide a unique opportunity for public interaction and education. Trail reenactments, like the one pictured above, are conducted across Camp Guernsey lands.

led by representatives of the Northern Cheyenne and the Rosebud Sioux Tribes, to two 19th century Indian Wars battlefields. This field trip provided a unique opportunity for both tribal and military representatives: *"Today we have an opportunity to stand on common ground. These battlefields are sacred to both the U.S. Army and the numerous tribes that fought for this land. It is a great privilege for me to learn from my brothers and stand on this sacred ground together, as friends,"* WYARNG's MAJ Samuel House. The WYARNG encourages all deploying military personnel to attend Native American consultations because of the similarities between formal consultations and advisor or mentor missions in Afghanistan and Iraq.

American Indian tribal representatives hold a prayer at Warm Springs in Camp Guernsey's South Training Area during a 2008 tribal consultation meeting field trip. Native American consultation is a key component of Camp Guernsey's CRM program.

Tribes enjoy great access to Camp Guernsey. The Northern Arapaho have a sweat lodge on the South Training Area to conduct tribal activities and to share traditional ceremonies with the WYARNG. A tribal monitoring program is in place for ground-disturbing projects; tribes visit on a rotating basis to participate in fieldwork and surveys. The WYARNG staff discusses availability of camping, hunting, plant gathering and cedar harvesting at all consultation meetings. Tribal representatives often say the WYARNG leads the way and is a model for other military installations and government agencies.

Because of the extensive number and types of cultural resources identified during archaeological inventories, tribal representatives recommended a Native American ethnographic study and traditional cultural property survey of Camp Guernsey lands be conducted. The project was completed in 2008. Traditional cultural sites identified during the survey are now managed following recommendations provided by tribal participants.

Curation

The WYARNG has a long-standing curation arrangement with the University of Wyoming Archaeological Repository and Curation Facility, the federally designated repository for Camp Guernsey's archaeological collections, pursuant to 36 CFR 79. The facility is in a state-of-the-art building constructed within the last five years and is administered by the Office of the Wyoming State Archaeologist. The facility is open to researchers and Native American tribal representatives and has been visited in the past by tribal members. The WYARNG continues to offer tribal members the opportunity to visit the curation facility.

Through State of Wyoming interagency cooperative agreements, the survey section of the Office of the Wyoming State Archaeologist has served for 20 years as the WYARNG's principle contractor for archaeological inventory projects at Camp Guernsey. This has resulted in a smooth, seamless process for curating archaeological materials during each field season. Native American Graves Protection and Repatriation Act inventories are complete, and no human remains or funerary objects were identified in the Camp Guernsey archaeological collections.

Cultural Resources Awareness and Education

Camp Guernsey CRM staff encourages education, communication and public awareness in several ways. Pocket-sized cards outline the types of cultural resources found at Camp Guernsey, the importance of protecting Camp Guernsey's heritage and how users of the Camp can preserve its cultural sites. These cards are distributed to WYARNG personnel, troops training at the facility and the general public. A separate handout explaining proper procedures for protecting inadvertent discoveries is also available. It is provided to project managers, construction contractors and troop labor crews.

A video produced in 2007 by the WYARNG through a contract with the Oglala Lakota Tribal College TV Production Program is now an important part of the management strategy showing awareness of the importance of protecting cultural resources at Camp Guernsey. One segment of the video shows representatives from the Oglala Sioux and Eastern Shoshone Tribes describing how cultural sites are important to the tribes. Environmental staff includes the video in safety briefs provided to military units training at Camp Guernsey. Members of the 2-30 Mountain Infantry Battalion from Fort Polk, La., informed Camp Guernsey staff the video is useful to their cultural training for Afghanistan missions.

Camp Guernsey hosted interagency firefighting training events in 2008 and 2009, with more than 300 attendees from agencies across the state and region at each event. The CRM staff presented training briefs to bring awareness of cultural resource preservation issues to state foresters, fire incident commanders and others involved in fighting wildfires.

Community Relations

Several key communities surrounding Camp Guernsey gain both monetary and cultural benefits from their association with Camp Guernsey and its staff. Goshen County reaps an economic benefit of more than $5.1 million from the National Guard, with approximately 90 Guard members and civilian personnel living in its communities. Platte County realizes more than $7.2 million in economic impact and has approximately 123 Guard members and Camp Guernsey employees calling the county home.

With the proximity to Fort Laramie National Historic Site (approximately 15 miles), the WYARNG is very sensitive to the events that took place in conjunction with the Fort Laramie Treaties of the mid-1800s. A concerted effort is made to ensure park rangers are invited to WYARNG Native American consultations at Camp Guernsey, and likewise, CRM and tribal representatives have been invited to visit Fort Laramie.

The WYARNG continues to partner with the town of Guernsey and the Wyoming Department of State Parks and Cultural Resources in public interpretation and educational signs at the Guernsey Oregon Trail Ruts site. The public visitation to this well-known location contributes to the local economy.

> "Wyoming ARNG takes its responsibility as stewards of their land very seriously, respecting the history and traditions of the Native American tribes and settlers who lived there before, and protecting that heritage for future occupants."
>
> **- Sarah Killinger, Liaison to the Army, Advisory Council on Historic Preservation**

The WYARNG cultural resources manager is a member of the Wyoming Archaeology Awareness Month Committee established by the SHPO. Camp Guernsey distributes archaeology posters and participates in other annual Archaeology Month events.

Environmental Enhancement

A number of projects have assisted cultural resource sustainment, including signage near significant cultural sites notifying users which types of military training activities are permissible and the placement of vegetation near a rock cliff with historic and prehistoric rock carvings. The vegetation provides a natural barrier and serves to protect the important cultural site.

The WYARNG C&FMO has accomplished a number of rehabilitation projects on the Camp Guernsey cantonment. Nearly every building contained asbestos floor tile, pipe wrap and plaster laced with asbestos fiber. Environmental staff at Camp Guernsey, certified in asbestos inspection, coordinates with CRM staff to ensure historic buildings are not adversely affected by remediation efforts.

Mission Enhancement

All CRM activities are coordinated with Camp Guernsey command staff to better support the goals of sustainable training. All lands have been or are in the process of being surveyed for cultural resources. By identifying the resources Camp Guernsey has well in advance, the CRM office helps military planners and project managers select project

locations and footprints avoiding resource issues. In this way, the CRM program directly contributes to ensuring training on Camp Guernsey is not threatened or interrupted. A WYARNG Intranet Web site contains Camp Guernsey cultural resource management plans, SOPs, design guidelines and preservation briefs for historic buildings, program announcements and more. This management strategy helps guarantee any WYARNG member can readily access cultural resource information.

Camp Guernsey is a preferred major training area for deploying combat units due to its similar landscape found in Afghanistan. Here, the WYARNG's 115th Fire Brigade has established a logistical supply area in the draw during an annual training period in June 2008.

The CRM office is firmly committed to sharing its lessons learned and management approach at Camp Guernsey throughout the military services and across agencies. The successful DoD Legacy project is among the most visible of these efforts. In the past CRM personnel have presented specific Camp Guernsey management strategies at the National Guard Bureau's National Environmental Workshops, the DoD Sustaining Military Readiness conference, regional historic preservation conferences and the Society for American Archaeology national conference.

Cultural Resources Compliance

External coordination helps Camp Guernsey maintain cultural resources compliance with Section 106 of the National Historic Preservation Act (NHPA), 36 CFR 800 regulations and other federal laws and executive orders. The cultural resources manager is a former Wyoming SHPO employee, who provides effective insight into interagency coordination. Because of the WYARNG's positive reputation for stewardship, the SHPO is more of a partner in CRM than a regulatory oversight agency. Periodic meetings and field visits keep the SHPO aware of upcoming projects or issues as they arise. A SHPO staff member regularly attends Native American tribal consultation events at Camp Guernsey.

The foresight in the completion of cultural resource surveys conducted under Section 110 of the NHPA has allowed numerous construction and training projects to occur without mitigation efforts. In 2009, development began on a draft Programmatic Agreement (PA) with the SHPO to formalize the Camp Guernsey Cantonment Historic Properties Management Plan and Facilities Excellence Plan. The PA will serve to streamline the Section 106 process for federal undertakings in the historic district by identifying projects about which the WYARNG does not have to consult with the SHPO on a project-by-project basis.

Between 2008 and 2009, the WYARNG received $815,000 from state and federal sources for cultural resource compliance. The CRM program allocated approximately 60 percent of these resources for inventory and site evaluations, while the remainder was used to assist in Native American tribal consultation and monitoring of significant cultural sites during construction.

CONCLUSION

As evidenced by its numerous accomplishments and achievements, Camp Guernsey's CRM staff overwhelmingly demonstrates dedication to balancing the installation's mission with the study and preservation of the area's cultural resources. Stewardship of the installation's cultural resources is critical to mission readiness, and the CRM staff works tirelessly to ensure compliance, Soldier training and the abundant cultural sites on Camp Guernsey lands remain a top priority.

FY 2009
Secretary of Defense
Environmental Awards

Cultural Resources Management Award — Installation

BARRY M. GOLDWATER RANGE (BMGR) EAST

Luke Air Force Base, Arizona

Nominee: **Barry M. Goldwater Range East**

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INTRODUCTION

Since September 1941 the Barry M. Goldwater Range (BMGR), located in southwest Arizona, has served as the nation's second largest Air Force tactical aviation range, essential for developing and maintaining the combat readiness of the tactical air forces of the United States Air Force, Marine Corps, Navy, and Army. The mild climate and vast tracts of uninhabited lands were tailor-made for military training. Overhead are 57,000 cubic miles of special use airspace, an incredible volume that easily accommodated the revolutionary transitions from propeller-driven aircraft firing.50 caliber guns to supersonic jets employing with precision-guided munitions. The BMGR has contributed significantly to the nation's defense by effectively accommodating the training requirements of changing air combat capabilities and missions that include aerial gunnery, rocketry, electronic warfare, and air support; as a place to develop equipment and tactics; and as an armament and high-hazard testing area. The two principal agencies that operate and use the Goldwater Range for combat aircrew training are the US Air Force and Marine Corps.

The primary mission of BMGR East is to support initial and continuation training of Air Force, Air National Guard and Reserves, and Army National Guard aircrews operating frontline combat aircraft. Some 55,000 sorties are flown annually. Military use areas include four manned air-to-ground ranges, three tactical ranges, WW II era auxiliary airfields, and an air-to-air range.

The Military Lands Withdrawal Act of 1999 reauthorized military use of the range and assigned jurisdiction and land management authority to the Secretaries of the Air Force and Navy for their respective portions of the range. The 56th Range Management Office (56 RMO) administers the land and airspace of the approximately 1,050,000 acres of the BMGR East. This includes operations and maintenance of the 2,000 acre Gila Bend Air Force Auxiliary Field (GBAFAF), located within BMGR East. GBAFAF is used daily by aircraft performing routine approaches and simulated emergency patterns and also used for emergency recoveries of military aircraft that experience malfunctions, hung ordnance, or damage during operations. The Range Management Office is a multi-disciplinary staff of 35, supported by a workforce of about 200 contractors, an unusually small number of people considering the scope of range operations and complexity of land management issues.

BACKGROUND

The cultural resources program is managed by two dedicated archaeologists within the 56 RMO Environmental Sciences Management (ESM) flight who ensure the rich cultural histories of the Range are identified, documented, and managed. The BMGR East lies within the Sonoran Desert within an area known the Western Papagueria. This is the hottest, most arid portion of the desert yet it is the most biologically and culturally diverse. The landscape includes steep mountain ranges separated by wide valleys that contain different plant and animal communities. Understanding the distributions of these communities and their relationship to prehistoric lifeways is critical for cultural resource management. The range is also home to several endangered plant and animal species.

The great natural and biological diversity of the range has resulted in significant cultural diversity through time. This heritage is represented by "historic properties" that include prehistoric sites, artifacts, historic buildings, Traditional Cultural Places, museum objects, photographs and documents. Cultural resources, a more inclusive term, includes intangible items such as sacred sites and natural features, such as surface waters, plants, animals, and minerals.

PROGRAM SUMMARY

During the award period the BMGR East cultural resources program made significant gains to inventory and evaluate resources on military training lands, protected numerous sites in proximity to military targets, established a new on-site curation facility, and clearly established itself as a regional leader in public outreach and interagency collaboration.

OVERALL CULTURAL RESOURCES MANAGEMENT

Most of the cultural resources on the Barry M. Goldwater Range are prehistoric archaeological sites situated on the desert landscape, rather than historic buildings. A new monitoring and rapid condition assessment program was

designed and implemented for sites located in primary impact zones around targets on tactical ranges. These assessments were completed for 80 sites originally recorded years ago. This effort included finding the site datum, repeat photography, relocating artifacts, mapping of new disturbances, and identification of new natural resource conditions.

Leveraging interdisciplinary skills, 56 RMO staff teamed with geographic information system analysts to consolidate three independent cultural resource databases prepared by three different contractors over a 15-year period. This complex effort resulted in a single integrated geodatabase used daily for analyzing resources.

The BMGR Site Steward Program continued its great success. This volunteer site-monitoring program has won SHPO recognition, and a training workshop organized by 56 RMO drew 100+ citizens who later devoted over 1000 hours monitoring sites on 130,000 public-access acres on the range. Site Stewards' activities included repeat photography, recording and mapping of disturbances, updating monitoring notebooks, cataloging site photos and site forms, and assisting archaeologists in intensive site recording.

BMGR East archaeologist Dr. David Doyel examines artifacts at the Lago Seco site.

HISTORIC BUILDINGS AND STRUCTURES

Historic buildings and structures on the range include World War II era auxiliary airfields used in the early days of the range's history; the arrival of much-faster jet aircraft rendered these facilities obsolete. These airfields were determined eligible for the National Register of Historic Places, and research preserved records of how bombing and gunnery training was conducted at these locations. A large report was published on the military history of the range that serves as summary and guiding document for the management of these resources.

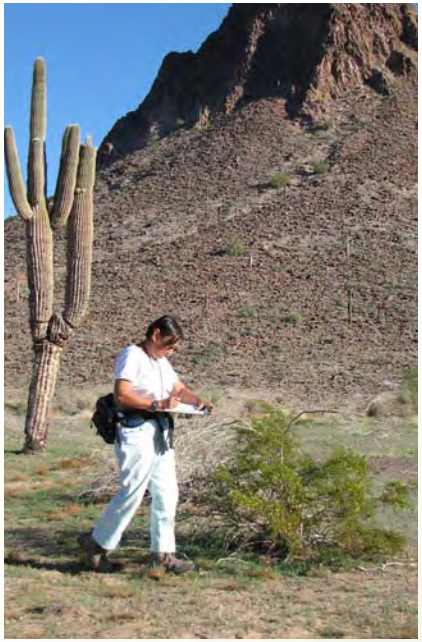
Several of these auxiliary airfields have witnessed resumed use for military training. Several are also associated with prehistoric archaeological sites. For example, Stoval airfield is now used by the US Marine Corps as a forward arming point for helicopters and as bivouac for ground personnel. To support this operation, archaeological surveys were completed and a plan developed for test excavations. This project served two purposes: deriving a better understanding of how ancient people lived in this desert setting, and providing an expanded footprint for air and ground training. Auxiliary Field 6 is also a multi-component site where a large-scale archaeological data recovery project occurred. Since then the airfield has seen renewed use for military training similar to Stoval Field, including use as an assault strip for C-130 aircraft, so it's being used for its original purposes after decades of abandonment. The limited maintenance this requires does not alter the characteristics of the sites.

Christopher Doolittle, contract archaeologist, discovered this whole vessel in an EOD impact zone on the East Tactical Range. The bowl dates to around A.D. 1400; this pottery continued to be made by native people in the area until the early 1900s.

Target modernization is an ongoing process that dates back to the early days. Related historic resources include WW II and Korean War era vehicle convoys, gun enplacements, railroad targets, and a ground support building. Archival research has documented the original plans and how these resources were used in training operations.

ARCHAEOLOGICAL RESOURCES

A huge sustained focus on archaeological survey has been a top priority of the overall program. The coordinated effort of over 30 contract archaeologists for four years resulted in completion of 12,000 acres of impact zones and recording of 150 sites. Eleven major technical reports, 1,200 pages of text, describe the findings



56 RMO Archaeologist, Adrianne Rankin, assesses conditions of cultural sites on the North Tactical Range within the 1.05 million acre Barry M. Goldwater Range East. These sites are periodically re-assessed to evaluate whether they are being adversely affected by military training operations, erosion, or other factors.

of the surveys. These efforts required coordination with consulting partners including SHPO and 15 Native American tribes. The reports added to a growing library that describes 1,269 sites and surveys on 186,000 acres. An in-house survey of 30 miles of remote unpaved roads allowed much-needed road maintenance to proceed. About 18 percent of the 1.05 million acre range has been surveyed, including virtually all areas within the mission impact footprint, an incredible feat considering the time frame and 2-person staff.

This small staff required maximum use of best practices, sophisticated tools, and analytical skills to manage the resources on the range. As consultations with partners continued, the staff developed a systematic program for the in-house annual evaluation of nearly 80 archaeological sites located in high-risk zones potentially affected by mission activities. A new integrated cultural resources geodatabase became an indispensible tool for record keeping and resource management. The system includes a unique archaeological site condition database to monitor new disturbances and threats to sites, including records about how sites are being disturbed. As a result, data from repeat visits clearly identified the type and severity of the disturbance, allowing for the development of a mitigation plan. Routine site condition assessments are conducted for sites outside the mission impact areas.

The program promoted innovative thinking. For example, the single greatest source of archaeological site disturbance on the range is from Explosive Ordnance Disposal personnel performing range clearance. This annual operation consists of driving large vehicles in target areas to locate and remove spent munitions; this work creates much larger disturbance than direct impacts from ordnance. To address this issue, the team developed an inexpensive, long-term solution to mark archaeological sites for vehicle avoidance. Bright orange plastic poles were tested to ensure compatibility with F-16, A-10, and helicopter targeting systems, then were installed to create buffer areas around sites. The RMO team installed 500+ bright orange plastic poles to delineate 137 sites on three tactical ranges. This resulted in increased protection from inadvertent damage and saved $100,000 per year in survey and flagging costs!

RMO personnel installing bright orange plastic poles in the primary impact zone. The poles provide a buffer without compromising site location information and are highly visible to EOD personnel for avoidance when traversing the range, providing protection from inadvertent vehicle damage.

NATIVE AMERICAN PROGRAM

The 56 RMO has a full-time intergovernmental Native American liaison who organized meetings between tribal leaders and the installation commander. The liaison implemented the DoD American Indian and Alaska Native Policy and executive order on government-to-government relations, and coordinated management and operations issues, such as over-flights, noise, sonic booms, and capacity-building opportunities.

Quarterly briefings by the neighboring Tohono O'odham Nation (TON) were incorporated into the curriculum of F-16 pilot training. Nation leaders shared their culture and *Himdag* (way of life) with pilots to enable them to understand how military training in airspace over tribal lands impacts the people. This program, called "Face to the Nation," promoted respectful consideration of other cultural perspectives and a positive relationship with the Nation. This program worked to mitigate disturbances caused in the performance of training pilots in the special use airspace overlying much of the Nation.

Mr. Tim Berry, RMO Explosive Ordnance Technician, consults with Mr. Ron Barbea, Compliance Inspector, Tohono O'odham Nation Environmental Protection Office, about a jettisoned fuel tank that landed in a remote, unpopulated area of the Nation.

The 56 RMO, other federal agencies, tribes, and the SHPO co-sponsored a 3-day Traditional Cultural Places (TCP) workshop attended by over a hundred tribal members and archaeologists. Tribal members made presentations on TCP's and how consultation between tribes and agencies could be improved. Participants gained a better understanding that promoted mutual respect and understanding between agencies and tribes.

The identification, management and protection of these special cultural places, many of which can be found on the Goldwater Range, was paramount to dialog between agencies and tribal leaders regarding sensitive sacred sites. RMO archaeologists consulted with 23 federally-recognized tribes and one Native American group, located in Arizona, New Mexico, and California that claim cultural affiliation with BMGR East lands. Consultations included providing draft reports to tribes for comments and meetings with the TON Cultural Resource Committee and Cultural Affairs Office. Being the largest and closest to the BMGR, the TON often served as the lead for other tribes. On-going discussions addressed issues of traditional use and identification of sacred sites; incorporation of Native American perspectives into reports; inventory of plant materials and animals used for food, medicine, construction, ceremonies, and craft production; and field trips and access to areas used by tribes prior to the establishment of the BMGR East.

RMO supported multi-day field trips with the Yavapai-Apache, some of which were video-taped by tribal members and later shown to elders. These field trips provided opportunities for tribal youth to learn traditional information from elders about migrations, traditional uses, and sacred sites on the range. Members of the TON and the Hia C-ed O'odham co-authored chapters in a volume on cultural resources associated with the BMGR. Tribes provided scientific knowledge and perspectives of the interdependence of the earth, sky, plants, animals, and people which was incorporated into the natural resource program.

CURATION

The Goldwater Range recently benefited from an incredible windfall — the National Geospatial-Intelligence Agency, a tenant unit at Gila Bend Air Force Auxiliary Field, needed more space for long-term curation of documents. This resulted in renovation of an old warehouse to meet stringent Secretary of Interior standards, with a portion dedicated for use by the Air Force, saving $230,000 in renovation costs. But this also saved the cost of curating items in a public or private institution. Over 15,000 artifacts from 347 sites and 346 isolates plus about 18 linear feet of records were being held temporarily by the primary cultural resources contractor.
If these items were accessioned at Arizona State Museum, the up-front five-year costs would exceed $306,000, with reduced annual costs continuing indefinitely thereafter. The decision to take on in-house curation was an easy one, with a free facility valued over $230,000 and massive savings during the first five years!

A new database is in final development that combines numerous data sets from several contractors. This data set not only includes all characteristics of sites and isolates, it also links with the data regarding the 15,000+ artifacts in curation. This powerful tool, combined with the on-site curation facility, provides for ready hands-on access by Air Force archaeologists, Native Americans, and researchers.

CULTURAL RESOURCES AWARENESS AND EDUCATION

The 56 RMO cultural resources team wrote the book on Air Force archaeology! Archaeologist Adrianne Rankin co-edited the 780 page book "Fragile Patterns: The Archaeology of the Western Papagueria." Both she and archaeologist Dr. David Doyel authored chapters in this book, which reports on a decade of archaeological research funded primarily by the Air Force. The book was selected as one of the top 12 southwest books of 2008, and resulting newspaper articles about BMGR archaeology appeared across the country.

Although the BMGR is located a full hour's drive from Luke AFB, the 56 RMO recognized that one key to protecting cultural resources is promoting education and outreach to military personnel and the general public. The installation commander, vice commander, and other senior officers received on-site briefings and tours that provided awareness of the cultural resources and the challenges and complexity to de-conflict resource management and the military mission. Staff archaeologists prepared articles for the base paper, the Thunderbolt, to educate airmen about cultural history and resource management. Briefings and range tours were given to the visiting dignitaries including Congressional staffers, the West Valley Leadership Council (Luke AFB supporters), and many other groups.

Annual munitions clearances performed by EOD troops were historically the most ground-disturbing military activity on the range. To counter this, briefings to EOD teams were conducted three times annually that included an overview of range culture history, identification and avoidance of cultural resources, and the protocol for reporting found cultural resources. This resulted in EOD personnel taking an interest and appreciation for resources on the range, and the identification of several new sites.

The remains of a Cold War target located atop a flat hill include artillery and searchlights. The target, eligible for the National Register of Historic Places, was used to train Korean War era pilots to detect, identify, and destroy simulated enemy positions on the ground.

RMO archaeologists were leaders in their profession, and frequently presented briefs and posters at national, state, and local forums including the Society for American Archaeology and the Sustaining Military Readiness conference. Both archaeologists presented lectures and field trips to local archaeological societies each year.

Mentoring of a graduate student led to a PhD dissertation on the utility of using advanced remote sensing and mathematical modeling to identify and record trails to build linkages between major archaeological sites on the range. These resources are difficult to detect on the ground and have been identified by Native Americans as sacred sites. This unfunded research project saved the Air Force $300,000 versus contractor costs, and the results were presented in a poster at the 2009 Sustaining Military Readiness conference.

COMMUNITY RELATIONS

Public outreach was a major component of the cultural resources program, and some two dozen annual events provided ample opportunity for presentations to hundreds of people. For the state-wide Arizona Archaeology month, Ms. Rankin co-founded "Seasons of Traditions," a month-long program at neighboring Organ Pipe Cactus National Monument (OPCNM) that showcases regional archaeology and Native American traditional arts and crafts. She contributed presentations and demonstrations at that event for the past 20 years. Ms. Rankin also was a by-name request consultant to OPCNM for the development of new museum exhibits at its visitor's center. RMO was a founding member of the Sonoran Shindig, an annual festival in Ajo. A recent event featured RMO archaeologists displaying five new posters highlighting BMGR East archaeology, including Ranching, Ethnobotany, Subsistence Practices, Ritual Landscapes, and the Site Stewards Program.

Explosive Ordnance Disposal personnel found this geoglyph on the North Tactical Range as a result of the cultural resource training they receive. Visits to this site by tribes indicate that it is an important Sacred Site on the BMGR East

The statewide Arizona Archaeological Society (AAS) meeting was held in nearby Gila Bend in 2009, attended by 100+ people. Dr. Doyel presented the keynote address and he and Ms. Rankin provided guided tours for many of the attendees. For over twenty years Dr. Doyel has volunteered and supported the Town of Gila Bend in its preservation efforts at the Gatlin Site National Historic Landmark. For ten years

Dr. Doyel served as professional advisor to the Agua Fria Chapter of the AAS and supervised their field projects.

RMO archaeologists have memberships in a number of professional organizations and cultural resource conservation organizations, including the Society for American Archaeology, Registry of Professional Archaeologists, Arizona Archaeological and Historical Society, Arizona Archaeological Council, Arizona Archaeological Society, and the American Rock Art Recording Association.

ENVIRONMENTAL ENHANCEMENT

Since most 56 RMO personnel have desk jobs, a new Stewardship Day event was established by the director and Environmental Sciences group to increase organizational commitment to the range resources. Over 20 volunteers teamed up to address erosion problems at the archaeological component of the National Register eligible Auxiliary Field 8 site. The team used straw bales and wattles to dam arroyos and slow the overland flow of rainwater, which was deeply incising the site. This event was a huge success — the site was stabilized, and the enthusiastic participation led to Stewardship Day becoming an annual event! When the volunteer Site Stewards reported that rock art sites in a rugged mountain area were strewn with litter left by undocumented aliens, this presented another Stewardship Day opportunity. The 56 RMO team mobilized in force, collecting hundreds of pounds of trash from an otherwise pristine landscape.

Auxiliary Field 8 Erosion Control RMO personnel implemented a conservation effort at a large prehistoric site adjacent to the airfields on the Goldwater Range.

MISSION ENHANCEMENT

Since the cultural resources program is embedded within the Range Management Office, direct support for the military training mission is a continual effort. This teamwork is an ideal situation that allows early consideration for cultural resources exactly as intended by the National Historic Preservation Act. Operational proposals were jointly developed with aircrews, allowing for immediate vetting and resolution of environmental or other issues.

When a multi-million dollar windfall was made available for range enhancements and other purposes, $500,000 was used to conduct cultural resources surveys in support of new initiatives. This included survey of 17 linear miles of access road and a 1000-acre block for a proposed Sensor Training Area, a no-drop target to train aircrews on use of precision-guided weapons. This proposed new target set was the keystone in a set of ten separate proposals that were assessed in an Environmental Impact Statement, itself a massive $550,000 undertaking. Due to the complexity of the analysis and its permutations, the bulk of the cultural resources section was rewritten by in-house personnel. This multi-year EIS effort has proceeded on time and on budget. The benefits to military readiness and range operations will be far-reaching and long-lasting.

Modernization of targets is an ongoing process to ensure that scenarios on the range replicate the real-world situations that pilots see in combat. In recent years entirely new targets were designed and constructed to replicate rural farms and small villages typical of southwest Asia. The cultural resource managers and other environmental staff assisted with siting these targets and with contract arrangements. Since the proposed sites were carefully selected to avoid potential conflicts, Section 106 reviews were completed expeditiously. Without this extensive involvement the funds would have been lost and several new target sets not constructed, resulting in diminished combat training opportunities for aircrews from all four services and foreign allies.

BMGR East is the poster child for interagency collaboration! Direct mission support is not limited to the military training mission. The U.S. Border Patrol and other elements of the Department of Homeland Security performed their interdiction missions within the BMGR and the region, and at a surprising level of intensity. The cultural resources staff was summoned to enable the use of mobile ground radar units at locations on the range. These locations were selected based on operational needs as

they had lines of sight capable of detecting distant foot traffic. Cultural resources surveys were performed in-house and an immediate "go ahead" given in the field, allowing the placement of units to meet time-critical law enforcement needs. The deterrent effect on illegal immigrant traffic was immediate.

In 2005 catastrophic wildfires burned some 130,000 acres of the Goldwater Range, requiring emergency intervention from the National Interagency Fire Center. Although this was considered a rare event due to heavy winter rains, prudent land managers plan ahead to better respond to future disasters. The 56 RMO teamed with experts from the US Forest Service to write the first-ever fire management plan for BMGR East. The plan included potential effects of fire fighting techniques on cultural resources. In fact, the plan highlighted locations of combustible cultural resources, providing the on-scene commander a better sight picture to direct response efforts.

CULTURAL RESOURCES COMPLIANCE

Full compliance with cultural resources laws was just a starting point for the Goldwater Range — the true measures of merit were how these compliance actions supported or enhanced the military training mission and protected resources, all the while in a cooperative manner with numerous consulting partners. Development of an all- new Integrated Cultural Resources Management Plan (ICRMP) was a multi-year effort that exemplified this collaborative spirit. The massive ICRMP was prepared in cooperation

AZ Site Stewards monitor this rock art panel, called Travelling Man, in a public access area of the BMGR East. Tribes describe this petroglyph as a map that documents their migrations through the desert.

with Marine Corps Air Station Yuma, which operates BMGR West, and Volume 1 is that portion of the plan that addresses the common issues of both BMGR East and West — the physical setting, resource laws, culture history, and other landscape-scale elements. Volume 2 specifically addresses Goldwater Range East, and its encyclopedic heft and depth of coverage culminate the extended effort to complete this document. Volume 3 will address BMGR West.

Enabling the military training mission is Job #1 for the multi-disciplinary 56 RMO, and the cultural resources program certainly did its part in supporting the busiest primary training range in DoD. On several occasions new test or training activities were proposed which were departures from the norm. These required some survey in the field followed by consultations regarding potential impacts to cultural sites. The complexity of these consultations was compounded by the number of tribes (23) and the "purple" nature of the proposals to support the US Army, Marine Corps, Border Patrol, and other agencies. For example, the Marine Corps' semi-annual large-force exercise typically includes new ground maneuvers or other events that require consultation. These exercises make direct use of historic cultural resources, otherwise-abandoned World War II airfields, are used as assault strips and forward arming and refueling points for Marine Corps helicopters and KC-130 tankers. Close cooperation between the project proponents and cultural resources managers resulted in avoidance of known sensitive resources, thus expediting the consultations and enabling fully successful military training operations.

"56 RMO: Supporting military training, conserving resources entrusted to our care."

Secretary of Defense/Secretary of the Navy FY 2009 Environmental Award

Cultural Resources Management-Installation

Marine Corps Base Camp Lejeune North Carolina

INTRODUCTION

Marine Corps Base Camp Lejeune (MCBCL), North Carolina, has a cultural heritage originating more than 9,000 years ago and continuing on to include the rich traditions brought by the Marine Corps when the base was established in 1941. The Cultural Resources Management Program is charged with implementing Camp Lejeune's strategy for assuring mission accomplishment while also conserving its wealth of cultural resources. The Camp Lejeune Cultural Resources Management (CRM) Program of the Environmental Conservation Branch is part of the Environmental Management Division and consists of one full time professional archaeologist, and one contract program analyst.

The CRM Program oversees a varied and complex array of historic properties. The approximately 156,000 acres that comprise the installation encompass an inventory of 1448 cultural resources, with more than 1260 prehistoric and historic archaeological sites. These sites have a long history within the base, ranging from the Early Archaic Period (8000 B.C.) to early European colonization and settlement. The prehistoric sites located at Camp Lejeune are associated with known and unknown linguistic groups who once lived in the area. The later prehistoric, or formative, period is associated the Algonquian linguistic group. In addition to extensive archaeological resources, the CRM program manages eight historic districts and buildings comprised of 188 historic architectural properties. Constructed during the mobilization of the Marine Corps for World War II, many of Camp Lejeune's buildings and developed areas remain as they were originally constructed, retaining a high degree of architectural integrity. To better manage and use these architectural resources, the team has developed a multiple property listing that identifies and evaluates all significant architectural properties and guidelines for the treatment of those properties.

POSITION DESCRIPTION

The CRM Program manages Camp Lejeune's historic properties in compliance with federal legislation and Department of Defense, Department of the Navy, and Marine Corps regulations while supporting the Base's training mission. The CRM Program is responsible for historic building management, inventorying and evaluating historic properties, conducting consultation with the North Carolina State Historic

Preservation Office (NCSHPO) and the Advisory Council on Historic Preservation (ACHP), reviewing proposed construction, maintenance, military training exercises, and associated land use undertakings, and developing and maintaining data files.

BACKGROUND

Occupying approximately 244 square miles (156,000 acres) of land in Onslow and Jones Counties, North Carolina, MCB Camp Lejeune, MCAS New River, and MCOLF Oak Grove offer a wide range of geographic features which provides the Marines with diverse settings for multiple training exercises. The base topography is dominated by the sinuously curving New River and the 11 miles of beach stretching along the Atlantic Ocean. The New River originates in northwestern Onslow County and flows to the southeast for a length of almost 25 miles. The area surrounding the New River is characterized by gently rolling slopes, flat savannah plains, bottomlands with wide floodplains, cypress swamps, and pocosins. The New River estuary and the Atlantic Ocean beaches, which provide an unsurpassed setting for amphibious training, also encouraged the adaptation and exploitation of the region's ecological resources by historic and prehistoric cultures. While the varied landscape provides the premier training facility of the Marine Corps, it also supplied an attractive environment for Native Americans and European settlers prior to the Marines' arrival in 1941.

PROGRAM ACCOMPLISHMENTS

Overall Cultural Resources Management

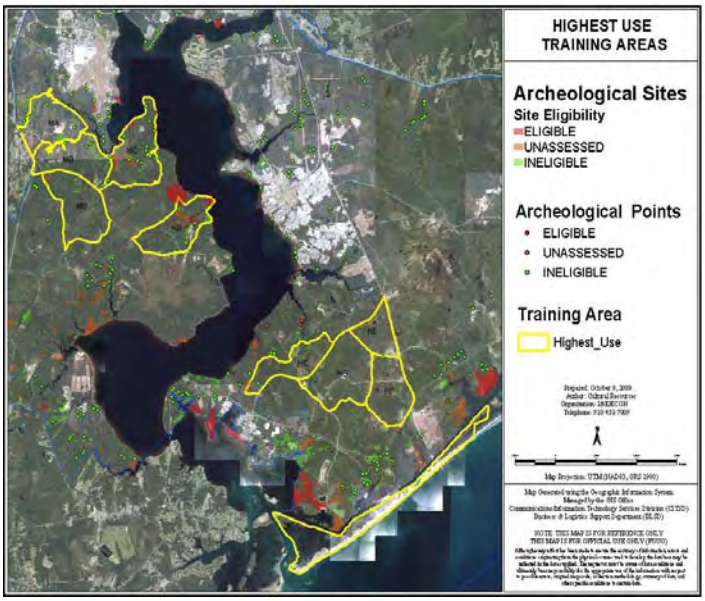
For the achievement period (FYs 2008-2009), the Camp Lejeune CRM Program has maintained an exemplary record of compliance despite the large inventory of historic properties to be inventoried, evaluated, protected and managed. Camp Lejeune's enormous holdings of undisturbed forests and its historical setting on the New River provide unique challenges to its CRM Program. To meet these challenges, an active, well-planned preservation strategy has been implemented. The soundness of the program is demonstrated by the Program's successful efforts to identify and evaluate cultural resources, the development of a positive relationship with the NCSHPO, and the integration of cultural resource management into new training and facility construction proposals. The following summarizes the accomplishments of the CRM Program during FYs 2008-2009:

- Oversaw archaeological survey of 1106 acres resulting in the completion of a ten-year plan to finalize archaeological survey of nearly 77,000 acres of high probability soils and the recordation of 1260 sites, as well as completion of the historic buildings survey and evaluations resulting in a final inventory of eight historic districts comprised of 188 historic buildings .

- Completed National Register of Historic Places (NRHP) evaluation of 81 archaeological sites in support of the Grow-the-Force initiative, the Wallace Creek Regimental Area Complex development, Phases IV and V of the Family Housing Public/Private Venture, and the Reduction of Archaeological Constraints in Highest Use Training Areas aboard Base.

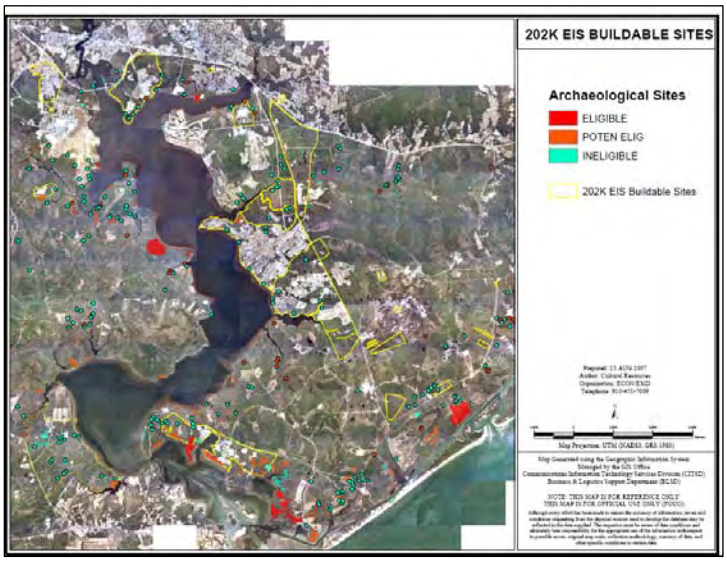
- Received the American Cultural Resources Association's (ACRA) 2008 Quality Product Award for the publication "*Semper Fidelis, A Brief History of Onslow County, North Carolina, and Marine Corps Base, Camp Lejeune*".

Cultural Resources Studies in Support of Marine Corps Mission Through NRHP Evaluation of Archaeological Sites in Training Ranges-Numerous archaeological investigations were conducted during the achievement period in support of the Marine Corps Training Mission, which resulted in completion of all required archaeological surveys in the training ranges and completion of NRHP evaluation of all unassessed archaeological sites in the Highest Use Training Areas. The purpose of the investigations is to reduce archaeological constraints in training areas based on a prioritized intensity of usage. All work in the total 10,721 acres of the Highest Use Training Areas has been completed, and only 41 acres (0.3%) of these ranges were found to have significant archaeological sites resulting in some degree of training constraints. Work is currently underway for NRHP evaluation in the High and Moderate Use Training Areas. This project has significantly reduced constraints on the training mission while also completing regulatory requirements for survey and evaluation of Camp Lejeune's archaeological sites.



Highest Use Training Areas Archaeological Data.

USMC Grow- the- Force Initiative and Resulting Cultural Resources Studies-In support of the USMC Grow-the-Force initiative and supporting Environmental Impact Statement, National Register evaluation of 42 unassessed archaeological sites and assessment of potential impacts to eight historic districts aboard Base was completed in FY09. Through completion of the studies and successful consultation with NCSHPO to resolve potential adverse effects to historic properties, a finding of No Adverse Effect was completed in September 2009 and concurred with by NCSHPO. Close cooperation and teamwork among staff at Camp Lejeune Environmental Management Division, Marine Corps Installations East, and Naval Facilities Engineering Command Atlantic enabled the participants to quickly identify cultural resource studies necessary for assessing the potential concerns and to implement a plan for assessing the potential impacts resulting from the Grow-the-Force initiative. This two–year effort was a tremendous challenge for the Cultural Resources Management Program and Camp Lejeune. Successful completion of the studies and consultation with NCSHPO in 2009 has enabled the Marine Corps to meet the goals and time-lines for this critical initiative.



Grow-the-Force Cultural Resources Data.

Historic Buildings Management

The CRM Program manages 188 historic buildings in eight historic districts. During the achievement period, Camp Lejeune consulted with NCSHPO on the final inventory and evaluation of the Base's historic districts and buildings, as well as the final Guidelines for Historic Buildings Management. This effort has been ongoing for more than 10 years, and NCSHPO's concurrence with the final inventory and Guidelines has allowed the Base to fulfill preservation goals of our most significant historic buildings and also enables Camp Lejeune to meet mission critical administrative space and infrastructure needs.

Building H 1, Former Naval Hospital.

Archaeological Resources

Camp Lejeune's CRM Program has accomplished the following goals in archaeological resource management during FYs 2008-2009:

- Site Inventory
- Site Protection and Compliance
- Research and Scientific Contributions

Base Archaeologist Briefs Marine on Site Testing in School of Infantry Training Area.

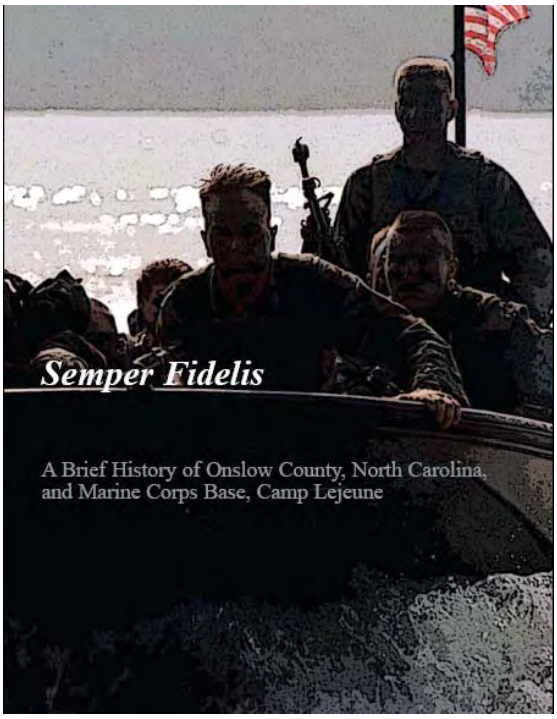
Site Inventory-Inventoried sites on Camp Lejeune include more than 1260 known archaeological sites. Information is stored on the Base's archaeological sites database. The archaeological sites under Camp Lejeune's management include sites dating from the Early Archaic Period (8,000 B.C.) through the early 20th century settlement of eastern North Carolina. A total of 108 new sites were inventoried during the achievement period. The recordation of these sites completed all Section 110 archaeological inventory requirements for Camp Lejeune.

Site Protection and Compliance-All proposed training and construction actions at Camp Lejeune are reviewed through the NEPA process to evaluate their impact on recorded archaeological sites. In addition, archaeological surveys are conducted for those proposed actions that may impact unrecorded sites. To protect recorded sites from inadvertent damage by military units in the field, the CRM Program clearly marks its National Register eligible sites as off-limits to vehicular traffic and any form of digging. Proposed actions that may impact NRHP eligible or unassessed sites require consultation with the State Historic Preservation Office. A total of 407 military training and construction actions were reviewed for potential impacts to archaeological sites during the achievement period. This required the survey of 1106 acres, and NRHP evaluation of 58 unassessed sites.

Research and Scientific Contributions-On October 11, 2008, the North Carolina Office of State Archaeology, in association with the Department of Anthropology, East Carolina University, and the Southern Coastal Heritage Program hosted a symposium titled "Twenty-five Years and Counting: Current Archaeological Research in the North Carolina Coastal Plain." Data recovered from ten years of intensive archaeological surveys within the boundary of Camp Lejeune was presented at the symposium. The Camp Lejeune studies have resulted in the accumulation of archaeological and environmental data that suggest differences in land use during the Woodland Period and serves to broaden our understanding of this period in the region through the examination of spatial distribution

and densities of Woodland Period sites. The status of Woodland Period research in the New River estuary of Camp Lejeune was summarized and presented as a general framework for understanding prehistoric adaptations and settlement organizations in the Coastal Plain region of North Carolina.

Cultural Resources Education



On September 28, 2008, the American Cultural Resources Association (ACRA) awarded Camp Lejeune with the 2008 Quality Product Award for the publication "*Semper Fidelis, A Brief History of Onslow County, North Carolina, and Marine Corps Base, Camp Lejeune*". This outreach publication provides a narrative history of the installation, from the prehistory of the area, through the World War II origins of the base, and up to present operations. Further efforts are underway to construct historic monuments with plaques at various places aboard base to interpret significant historic events and locations. Phase I of the project constructed seven historic interpretive monuments on Base and in areas just outside of the installation boundary during FY09. Phase II construction of seven additional historic markers is currently underway. These efforts are part of a series of projects initiated by Camp Lejeune to manage its archaeological and historical resources, to educate Marines and Sailors on the proud heritage of the base, and to increase public appreciation of Camp Lejeune, its place in the local community, and its contributions to the Marine Corps and the Nation.

CONCLUSION

Camp Lejeune has set the standard for Marine Corps excellence in cultural resource protection through the implementation of an innovative, effective Cultural Resources Management Program. Recent successes have been accomplished through the formation of an effective partnership with the North Carolina State Historic Preservation Office, and by fully integrating cultural resource protection efforts with the Base I&E Department and Base S-3. The CRM Program has accepted the challenge of implementing proactive initiatives to identify and protect archaeological and historical resources through a period of significant growth on the Base. Our efforts have reaped significant rewards, as we have protected the last vestiges of past cultures while ensuring the viability of our training mission. The work accomplished by the CRM program has been key to successfully meeting the Base's requirements for increased training and Grow-the-Force initiatives.

Two Updates on Predictive Modeling at the Installation Level

"Predictive Modeling Using Time-Specific Criteria at Avon Park Air Force Range, Florida", July 2010, by Virgil Roy Beasley III, Geo-Marine, Inc. and Kathy Couturier, Avon Park Air Force Range

Predictive models and military installations are natural fits. In most cases, military installations are expansive, with large areas of relatively undisturbed land, and well-defined boundaries. Predictive models are appealing management tools, since, in principle, these models should provide a guide to the likelihood of encountering archaeological sites in unexplored areas. Unfortunately, most previous predictive models have not achieved the military's goals. This is not to say that the models have been totally ineffective or useless. They have shaped the direction of archaeological survey and have helped to refine discovery methodologies within military installations and beyond. However, due to many factors, including uneven implementation, biased testing methodologies, and, most importantly for the present discussion, a tendency to project contemporary environmental conditions into the past, these models have generally failed in their primary purpose: to accurately predict site locations.

The major problem with the previous models devised for Avon Park is that they treat the environment as a static phenomenon. All the models use the environment as it is configured today in their construction, including water and vegetation, two variables that have certainly changed over the time scales of archaeology. It might be argued that the contemporary conditions are reflective of the environment as experienced by humans for the last few millennia, but that assumption does not hold up well to scrutiny. Within the boundaries of Avon Park Air Force Range, there have been numerous alterations to waterways and vegetation comminutes within the last two centuries. Contemporary environmental conditions are just that, contemporary conditions and are not necessarily reflective of the past.

We are using the concept of Multi-Criteria Evaluative models (MCE) to develop a new model that will help the military achieve its goals while also making significant contributions to archaeological research. Basically, MCE combines information from several criteria or sources to form a single evaluation index. The criteria can be combined using logical operations, or the criteria can be continuous, using a weighted linear combination. Criteria are assigned a suitability value, derived in our case from comparing known relationships between the criteria or variable under consideration and the objective, in our case, archaeological sites. In this sense, MCE differs from previous models in method more than in concept. However, MCE is much more robust in that it provides a single evaluation index, and a means of determining where data are insufficient to evaluate properly. Our version of an MCE is incorporating a 10% sample of every shovel test ever excavated at Avon Park using a systematic methodology, relevant excavations, an intensive literature review, published environmental proxies, and our own paleo-environmental data described below.

There is a strong relationship between land-use, including settlement, subsistence, and mobility and local environmental conditions. Environmental conditions in Florida have changed dramatically over the last 12,000 years. To produce a suitable MCE model for site discovery, we integrate the environment as it was expressed at different points in the past. We are seeking to develop "snapshots" of past conditions in prehistory. As a first effort, we are trying to reconstruct the local paleo-environment at the Pleistocene-Holocene transition, during the Mid-Holocene, and during the Late-Holocene by gathering proxy data. Specifically, we have gathered geo-morphological and pollen data supplemented with radiocarbon samples to help reconstruct the temperature and rainfall at our target moments. These two variables are excellent predictors of settlement strategies and thus site types and size for particular periods. Additionally, we hope to have insight into local water levels in the past. While much is known about sea-levels during the time of human occupation of the New World, these levels have an unclear relationship to local conditions.

Our immediate plans are to continue analysis of the previous archaeological data and to further refine our methodology while awaiting the results from the environmental specialists. We will then implement the second phase of our research, including limited testing of our conclusions and a final synthesis of the data gathered and analyzed. The practical goal of this research is to provide a tool to assist in the management of cultural resources at Avon Park Air Force Range, including the planning of future surveys and testing.

"Brief on a Workshop on Integrating Predictive Models into the DoD CRM Process", March 2010, by SRI , Inc.(David Cushman, Christopher Nagle, Michael Heilen) on behalf of the DoD Legacy Resource Management Program (09-457)

Since 2001, several studies were funded via the Department of Defense's (DoD's) Legacy Resource Management Program that investigated the integration of modeling into DoD cultural resource management (CRM) compliance. The Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers have been consulted regarding this integration. To date, these studies have demonstrated that predictive models can provide a strong scientific foundation for decision-making about archaeological resources. These studies have also demonstrated that for predictive models to be sufficiently strong to be used in compliance, they must address issues of data quality and statistical modeling and fully utilize the capabilities of geographic information systems (GIS) technology. The models used in these studies on DoD lands have consistently shown weaknesses that could be easily overcome with a better understanding of how past use of landscapes could be conceptualized in GIS. The key to improving models, which was identified as part of an earlier Legacy project (#01-167) in 2001, is training. The purpose of the current project was to rectify this deficiency by developing and delivering a pilot workshop dedicated to improving technical aspects of predictive modeling and identifying key processes for integrating modeling in CRM compliance. The workshop was delivered on August 10, 2009, at the 2009 Sustaining Military Readiness Conference in Phoenix, Arizona. This report describes how this training was developed, the results of delivering the workshop, and recommendations for future delivery of this workshop to DoD CRM and National Environmental Policy Act (NEPA) staff in the future.

Three DoD Legacy projects on predictive modeling, in addition to an ongoing Environmental Security Technology Certification Program (ESTCP) project (# 200720), served as the foundation for the pilot workshop. The Legacy projects included #01-167, which evaluated the strengths and weaknesses of predictive models used at four DoD installations, and Legacy project (#03-167), which involved a working conference of DoD managers, State Historic Preservation Office (SHPO) representatives, tribal representatives, and modeling experts. The working conference reviewed the results of Legacy project #01-167 and made recommendations on how to best utilize modeling in installation compliance programs. The third Legacy project (#06-167) crafted an outline of a Section 106 (of the National Historic Preservation Act [NHPA]) programmatic agreement for integrating locational predictive models with installation CRM compliance and planning. This project also created the structure of a model that programmatically evaluates the significance of archaeological sites, rather than using a site-by-site, case-by-case approach to evaluation. The ongoing ESTCP project builds on these three Legacy projects and will result in the development of programmatic agreements for four demonstration installations, fully integrating predictive modeling with installation CRM compliance programs. An additional product of the ESTCP project is Web-based guidance on the development and use of predictive models and their integration into an installation's historic preservation compliance program.

These Legacy projects and the ESTCP demonstration project showed that:

- Predictive modeling can be used for NHPA and NEPA decision-making.
- Most large DoD installations do not use predictive models as a tool for NHPA or NEPA compliance.
- Few DoD CRM managers have a clear understanding of how these models are built and updated or how they can be integrated into the environmental review and compliance process; and few DoD GIS specialists understand archaeological data well enough to design spatial databases that can provide information to develop strong predictive models, which can then be used as a compliance tool.

Given these findings and observations, there is clearly a need for training on the development, refinement, and validation of predictive models, so they can be effective environmental and historic preservation compliance tools. Many installations have predictive models that could be improved and then used for compliance activities, if only installation personnel had a greater understanding of the modeling process and GIS techniques and the role of modeling in compliance.

To Contribute to the Discussion-

The Legacy Program welcomes information, news, briefs, announcements, photos, articles, suggestions, questions, etc. that relates to cultural resource activities on installations, within regions or information that generally pertains to DoD and military service cultural resource endeavors so that this information can potentially be included in this newsletter. Email Cecilia.Brothers.ctr@osd.mil if you would like to contribute.

Fort Drum's Dr. Laurie Rush Wins the Rome Prize

The American Academy in Rome, Rome Prize, is one of the most coveted awards in the fields of classical archaeology, architecture, and historic preservation. With permission from her chain of command, Dr. Rush submitted her proposal to the Academy in the fall of 2009. The jury selected her on February 26, and the public announcement and awards ceremony was held in New York City on April 15. Dr. Rush's proposal is to develop professional military education curriculum concerning cultural property protection during military operations. She is planning to work with NATO Defense College Rome and is hoping to establish partnerships between their faculty and subject matter experts from UNESCO's International Centre for the Study of the Preservation and Restoration of Cultural Heritage, also based in Rome.

A Note from the Legacy Program Director, Peter Boice-

As you read this, the DoD Legacy Program is completing the successful transition of its contracting services from the Huntsville Corps of Engineers (HNC) to the U.S. Army's Environmental Research and Development Center (ERDC). This change has not been without a continuing array of significant and unexpected challenges. We continue to work with both contracting offices to minimize potential project and program impacts and to reach mutually agreed upon solutions whenever possible.

That said, those of you with open projects remaining at HNC should be aware of the following:

- You should notify my staff immediately if HNC notifies you of any de-obligation of funds or of issues with invoicing.
- We recommend that you limit any future requests for extensions to the greatest degree possible, and that you submit any such requests as soon as possible. Extensions are unlikely at this time.
- We urge you to submit your valid payment requests in a timely manner, and to complete all projects and related paperwork – including those initiated in FY 2008 and 2009 – as soon as possible, and NLT September 30, 2011.

The Legacy Resource Management Program

The Legacy program was established by Congress in 1990 to provide financial assistance to DoD to preserve our natural and cultural heritage. The program assists the DoD in protecting and enhancing resources while supporting military readiness. A Legacy project may involve regional ecosystem management initiatives, habitat restoration and enhancement efforts, invasive species control, monitoring species at risk and species of concern, economics of historical preservation, cultural resources data management, communication, partnerships and public awareness, and/or context and model development.
Visit www.dodlegacy.org for more information.

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