

# FY 2016 Secretary of Defense Environmental Awards

## Alabama ARNG

### INTRODUCTION

The Alabama Army National Guard (ALARNG) installation encompasses 23,911 acres across 84 Readiness Centers and the 22,647-acre Fort McClellan Army National Guard Training Center (FM-ARNGTC), the largest of the ALARNG holdings. Approximately 90 percent of the known cultural resources of the ALARNG are contained on the FM-ARNGTC. Cultural resources across these properties are associated with 19 Federal Tribes, Civil War battles, Andrew Jackson’s military exploits, WWI & WWII and the Civil Rights movement, among others. The ALARNG Cultural Resources Management (CRM) team is dedicated to identifying and protecting archaeologically and culturally sensitive areas on these properties. Consideration of cultural resources is a key element in all ALARNG project planning, creating true integration of CRM with the military mission and enhancing organizational awareness of all cultural resources concerns.

### BACKGROUND

Over the past 2 years, the CRM and Geographic Information Systems (GIS) programs have collaborated closely to design and implement the first cohesive, integrated management tool for CRM activities and project planning across all ALARNG. The CRM team first focused on updating information for all relevant archaeological sites and ensuring that each is identified within the GIS data; now they are incorporating additional collections and inventory information. This data is being further linked with other program areas, including natural resources, facilities management, real property, compliance, National Environmental Policy Act (NEPA), Military Construction (MILCON) and more. The new GIS-enabled approach creates transparency across all directorates and the program is being enhanced to incorporate range operations as well, thereby allowing for greater oversight among unit activities and environmental constraints on a larger scale.

#### The ALARNG CRM Team includes:

Heather R Puckett, PhD	Cultural Resources Manager
Rebecca T Ridley	GIS Manager

### Judging Criteria



**Program Management**



**Orientation to Mission**



**Impact & Outcomes**



**Technical Merit**



**Stakeholder Interaction**



**Transferability**



## ACCOMPLISHMENTS

### CRM-GIS

 This expansion of the CRM-GIS management program is a major program milestone, successfully streamlining the review process for CRM operations as well as alerting all other programs when proposed actions might have impacts on cultural resources. This year, the team expanded the system to include artifact inventories and all associated data. The Light Detection and Ranging (LiDAR) technology component of the system is now also fully implemented, allowing the team to develop hillshade data in the program's web map viewer for multiple locations, particularly at FM-ARNGTC. Hillshade imagery is a uniquely powerful tool in generating landscape assessments, providing the CRM team with the ability to spatially represent related features and determine the footprints of historic sites in context. This, in turn, avoids identification errors that tie together unrelated sites or leads to misinterpretation of discoveries. Using hillshade data, the CRM team is able to more efficiently and accurately identify patterns of land modification, pinpoint the potential for additional resources and plan future survey areas.

 With this capability, the team is now constructing a predictive model for cultural sites. In other efforts, the team is nearing 100 percent completion of surveys across the state, including readiness centers and armory properties, in addition to the training center. All structures (50-years old and older) have been evaluated and the final unsurveyed 500 acres of 22,647-acre FM-ARNGTC are now being addressed. A partnership with Troy University has accelerated this project in terms of non-invasive technology. The Troy University team is conducting the remaining survey and also using 3D technology to create scans of stone features at FM-ARNGTC.

 In addition to this effort, ALARNG recently launched a lithic technology study of value to the broader archaeological community in Alabama. A brand new project for the team involves archival research to recover significant historical records lost during the Base Closure and Realignment Commission (BRAC) process that transformed Fort McClellan into FM-ARNGTC in the late 1990s. The team has pursued these materials in the Washington, D.C. archives,



During archaeological investigations at the AL ARNG's Fort Charles A. Rollo, Wiregrass Archaeological Consulting personnel recorded a rock overhang. The feature included a series of prehistoric pottery sherds and stone debitage and is one of two such shelter features identified within Lee County, Alabama.

 local repositories, postal records and various agencies that were extant when Fort McClellan was first established. While there is certainly face value in collecting this history, the team recognizes this material as a strategic resource as well, providing ALARNG with better context for sites and the clues to determining their true sensitivity and to aid public outreach and stewardship goals of our CRM program.

 Introduction of this new management program has further enhanced ALARNG's regulatory relationships. During consultation efforts with its Federally-recognized Native American Tribes and State Historic Preservation Office (SHPO), the team has been able to demonstrate exceptional accuracy for archaeological site locations in relation to proposed undertakings, which adds to the credibility of its program areas and streamlines the regulatory compliance process. As a result, both the Tribes and SHPO have advocated for other agencies to use the ALARNG CRM program as a role model for consultation efforts.

 Also supporting compliance and overall management is the ALARNG Integrated Cultural Resources Management Plan (ICRMP) currently being updated; a mission-level Environmental Assessment (EA) that began in FY15 triggered this revision. The team is revising the ICRMP into the new NGB template format that CRM Manager Heather Puckett helped develop as the lead for the NGB ICRMP Working Group. ALARNG's CRM team revision will serve as

an example for other states to follow in adopting the new format.

Implementation of the CRM-GIS program has allowed for much wider integration of the Plans, Programs and Environmental Division with other directorates, enhancing the buy-in and accountability of operations throughout ALARNG. The program creates an automated communication capability, such that when a proposed action would have impacts on cultural (or natural) resources, the various directorate stakeholders are alerted so that they can coordinate efforts.



The team continues to develop these tools in-house, saving tens of thousands over contracting and resulting in a more tailored, responsive end product. Other in-house projects also generate major cost savings. For instance, most archaeological and architectural surveys are completed by the team and ALARNG staff. When contracting necessitates a special expertise, the CRM team works with local professional archaeologists. The team has also sought ways to partner to avoid redundancy; for example, Tribes associated with Native American consultation overlap with those in Mississippi, Georgia, Tennessee, Louisiana and Florida. Recognizing this, the CRM Team initiated a regional consultation approach, with each participating state Guard contributing a share of the funding. For ALARNG, this partnership translates into approximately \$210,000 in cost savings each year over hosting an independent annual consultation meeting.



The new CRM-GIS management program is the true highlight of the team's CRM activities over the past 2 years, truly revolutionizing the ways that their work is conducted and integrated into the total ALARNG organization. Initially developed out of the CRM program, the team has now incorporated facilities management, real property, natural resources management, compliance, range control, NEPA and MILCON, thus improving the way ALARNG works at every level. The wealth of CRM data that the team has collected over the years is no longer frozen as mere records, but rather has become a functional resource to guide the installation as it continues to transform to meet its current and future needs while simplifying compliance.



The CRM-GIS program is a state-of-the-art, interactive, relational data management system that streams data in conjunction with custom web-map viewers. It is updated real-time via a Microsoft Access front-end interface to a SQL data container maintained by the CRM Team. This data includes archaeological sites, cemeteries, historic roads, bridges and railroad spurs, in concert with ALARNG facilities, boundaries and other constraints for rapid response in the project planning process. This year, the team began integrating its entire inventory of curated items into the system as well.



The combined CRM-GIS program relies on three essential parts: the Cultural Resources Installation Number Generator (CRING); the Cultural Resources Installation Building Database (CRIBD); and a customized web map viewer. CRING allows for daily information updating as sites are recorded, revisited or evaluated, and through unique queries designed to support AEDB-EQ data calls. All data, contracts, projects, reports, correspondence and other documentation associated with archaeological sites is accessible through CRING. CRIBD mirrors CRING, but captures this material for architectural resources, linking this information with the Facility Maintenance Dynamic Management System database (FMDMS) used by CFMO Maintenance to track work orders. The customized web map viewer operationalizes CRING and CRIBD by visually reflecting those databases' information, easily and accurately defining points of sensitivity, natural resources information, sites available for training, boundaries, operational data and more. For both archaeological and architectural resources, the web map viewer also offers instant access to PDF-format reports and creates a cohesive system to manage resources and projects across directorates. With its link to the Project Dynamic Management System, the team's system also allows users to view all upcoming and current Sustainment, Restoration, Modernization (SRM) and MILCON projects.



In a further innovation, the Web Map Viewer allows the CRM program to generate and utilize hillshade data via the application of LiDAR data. The program allows for setting changes to isolate cultural features from natural features or ALARNG structures so that the CRM Team can conduct landscape level analysis of known cultural sites. At FM-ARNGTC, the

hillshade data has been used to identify intact WWI trenches, multiple WWII training locations, historic mining operations, sawmills, agricultural terracing and previously unrecorded cemeteries. Using the hillshade data, the team is also able to understand these sites in context; for instance last year, combining maps, historic records and survey results allowed the CRM Team to not only confirm a WWII training site, but also identify it as a “Buffalo Soldiers” training camp. This year, hillshade data is being used to identify features that may be related to historic sawmill sites. In terms of non-military features, when a site is recorded using the hillshade data, the Team can reveal how the site is related to other areas—or unrelated as the case may be—which would open an area for training or development. This analysis is also relevant to identifying Native American sites and establishing a timeline for ambiguous features, a critical capability at a training site where ALARNG has identified almost 200 stone feature sites. As the team approaches 100 percent survey completion, this technique will allow them to prioritize areas for further research, identify where mitigation may be necessary and appropriately site virtually any kind of training event.

Also incorporated into the CRM-GIS program are all ALARNG’s historic structures. Of the 84 facilities within ALARNG, the team manages five structures that are eligible for listing on the National Register of Historic Places (NRHP). The CRM Team works in conjunction with the Real Property personnel for Planning Resource for Infrastructure Development and Evaluation (PRIDE) updates and (nstallation Status Report (ISR) data, and with the state facilities maintenance department to identify buildings with deficiencies requiring repair and treatments that are in kind to historic elements of the structures. The team is also leading efforts to identify locations that were relevant to Civil Rights movement events and the experiences of African Americans associated with ALARNG. These projects have deepened the team’s relationship with the SHPO, which is committed to this kind of research but often lacks the resources to fully pursue it.

The CRM team continues to work with the Missouri Army National Guard (MOARNG) to delineate the historic value and context of Cold War-era “783 Armories.” Despite their ubiquity and architectural

uniformity, these armories may be considered as historic structures due to their age, a challenge that would be felt nationwide. In collaboration with the MO ARNG, the team has begun developing a pamphlet and other documentation about these structures, including photographs, plans, construction documents, and architectural deviations, not only for their home states, but also for the 783 armories nationwide. By collecting this data from all states, ALARNG and MOARNG will be able to holistically address this structure type and bypass onerous and unnecessary compliance issues for all state Guards. This year, the project has focused on collection of architectural plans from several states.

The team’s CRM-GIS program incorporates all known archaeological sites on the ALARNG installation, primarily through the CRING database. Nearly all of the ALARNG has been surveyed and reassessed over the past several years. The recent surveys have been accomplished in partnership with Troy University, the Natural Resources Conservation Service (NRCS), SHPO and professional archaeologists. This partnership not only provides students with valuable hands-on experience in fieldwork, but has evolved into an intern position with the CRM program. Sites are typically protected in situ, but any artifacts that are removed are curated with a federally compliant facility, in partnership with the University of Alabama and Troy University. Using the CRM-GIS system and PastPerfect software, the team continues to review and catalog ALARNG’s holdings, with special attention paid to any items that could have Tribal/NAGPRA affiliation.

## Cemeteries

In FY15, the CRM Team partnered with NRCS to conduct further research on an African American cemetery on FM-ARNGTC. On Memorial Day, community members with family known to be buried there were invited to visit the training site and contribute to an oral history project. Using NRCS funds and equipment, the team facilitated a special training event for ground-penetrating radar; through this training, they discovered that the cemetery footprint was significantly larger than previously known. A number of unmarked burial sites were also identified. Future efforts will involve additional

delineation and research so that the team can provide families better information about their ancestors' locations. The team has met with community residents to complete a basic genealogical sketch and utilized the CRM-GIS program to analyze acquisition records from the 1940s when the site was incorporated into the training site. Interestingly, this research has revealed that the tenant farming in the



The Alabama Army National Guard (AL ARNG) is conducting archival research to gather historical documents, maps, photographs, and other information relating to the Fort McClellan Army National Guard Training Center. The archival materials are located in a variety of repositories ranging from local libraries, Alabama Department of Archives and History, the Library of Congress, the National Archives and Records Administration, and other private holdings. The research will help guide future cultural resources projects that relate to AL ARNG undertakings.

region was much more racially diverse than expected. Troy University will assist on subsequent delineations.

This year, the CRM Team discovered a cache of historic documents that had been placed in storage when Fort McClellan went through the BRAC process, including patents and deeds from the original training site acquisition. With this archival material in hand, the team began pursuing additional documentation from that WWI period, consulting the national Archives, historic postal records and documents from the Farm Security and Farm Resettlement agencies that were involved in relocating the residents of what became Fort McClellan. As a result, the team is now establishing a much clearer picture of what various historic sites may actually mean; rock piles, for instance, that were

avoided as potential prehistoric or Native American sites may be revealed to be part of more contemporary farm sites or even military actions. Using the recovered records, the team is in a position to streamline preservation and protection efforts as well as eliminate unnecessary training impediments.



The CRM Team's work has tremendously benefited the ALARNG training and readiness mission through its proactive pursuit of historic records and integration of GIS as a management tool. Streamlining record-keeping and compliance throughout all ALARNG directorates has meant that ALARNG minimizes any delays or compliance conflicts when it develops new training capacities or facilities. The CRM-GIS system, ties together data and operations from a wide range of directorates, including the Construction projects Dynamic Management System (CPDMS), with all upcoming and current Sustainment, Restoration, Modernization (SRM) and MILCON projects. The system also ties into the NEPA system, which links to the CPDMS and alerts Project Managers if a Record of Environmental Consideration (REC) is not signed and completed. This safeguard helps to align the start of projects with the completion of agency review. It also provides Project Managers with a direct link to the completed REC and all of the stipulations put in place. This is invaluable because it eliminates confusion when projects are combined, split, or recombined throughout the planning and construction process. The benefit of the program, with its ability to rapidly review projects and cohere planning at a strategic level cannot be overstated; this capacity has only expanded with the integration of Range Control operations into the program.

The modernization of ALARNG's management approach, introduction of hillshade technology and discovery of lost historic documentation has also allowed the CRM Team to make definitive assessments of features with little context. This has been a critical advantage in avoiding sites that ought to be protected and in opening up areas that do not need any special consideration. The CRM Team's work with 783 armories also represents a significant mitigation for ALARNG; the potential to create not only a statewide, but in fact a nationwide document. This helps the Guard organization avoid the compliance issues of listing generic properties as

National Register structures, protects the training mission and conserves resources to focus on more critical areas.

### ICRMP Revision

While the team's CRM-GIS program clearly provides for an unprecedented level of internal program continuity and institutional memory, the CRM Team continues to develop ways to integrate its operations and ensure stability in the program. The revision of the ICRMP this year will cement the recent gains of the CRM program and plot a course for future cultural resource goals. Adoption of the templated ICRMP is transferable; the CRM Program Manager is on the ICRMP Working Group to NGB, and her introduction of the new document will establish the model for other states to follow. The team's CRM-GIS program is also an approach that would benefit many state Guards in making the transition from pure data collection to data functionality

The CRM Team has incredibly positive working relationships with the SHPO. In fact, SHPO staff often attends training events developed and hosted by the ALARNG to enhance their skill sets. When the SHPO needed an unbiased third party to assist on the damage to a historic site caused by an adjacent landowner, the agency called on the ALARNG CRM Program Manager to conduct the monitoring. Rather than a regulatory hierarchy, the SHPO and the ALARNG operated as collaborators with the shared goal of preservation. When the SHPO and Tribes meet in the state, they often request that ALARNG take part as well. Beyond this relationship with the SHPO, the CRM Program Manager is involved with the Council for Alabama Archaeology and serves as the secretary for the Alabama Archaeological Society, contributing to the broader CRM community. She also communicates with faculty at Auburn University, Auburn University-Montgomery, the University of Alabama and the University of West Alabama to share the projects and resources that the ALARNG could offer to professional graduate student researchers. Additionally, the CRM Team actively supports the Conservation Committee, a branch of the Environmental Advisory Committee (EAC) and NGB. In this capacity, both the CRM and GIS Managers have assisted NGB with training at the Professional Education Center (PEC) in Little Rock,

Arkansas. In addition to training offered in 2016, the CRM Manager is currently working with NGB to develop cultural resources training (beginner and advanced courses) for future training opportunities.

### Native American Consultation

Native American consultation is a significant aspect of the team's stakeholder outreach and communications. ALARNG consults with 19 Federally-recognized Tribes. As previously mentioned, the CRM team takes a regional approach to consultation, partnering with Mississippi, Alabama, Tennessee, Georgia, Louisiana and Florida to rotate hosting of annual consultation meetings. This approach not only benefits ALARNG in its costs for consultation, but also reduces redundancy across states and improves the participation for Tribes. ALARNG has also been invited to participate in consultation events hosted by the National Parks Service and the Department of Transportation to demonstrate the techniques the CRM Team has honed over the years in achieving productive coordination. This year, ALARNG will be holding the consultation in Mobile, Alabama, and the team obtained additional funding to conduct



The CRM team has focused recent efforts on collections management and attaining compliance with the Native American Graves Protection and Repatriation Act (NAGPRA). This effort includes annual inspections of curation repositories; development of an in-house catalog; and consultation with Federally-recognized Native American Tribes with ancestral ties to the lands that the ALARNG continues to manage and the artifacts that they maintain.

 additional consultation focused on the American Indian Religious Freedom Act (AIRFA) to help address additional resources that are not always captured through documentation under the Section 106 and Section 110 (NHPA) process. Further, the team's incorporation of artifact data in the CRM-GIS system is supporting ALARNG's NAGPRA compliance. The ALARNG also has several Memoranda of Agreement (MOA) in place with some Tribes to streamline communication and cement this strong relationship.

 The CRM Team has also conducted outreach with local schools, visiting elementary classes to give lessons and presenting at local Girl Scout camp events. In other areas, the team has embraced public outreach. A training brochure and slides have been made for dissemination to personnel during Annual Training and during site inspections of Readiness Centers. Copies are also provided to Tribes and SHPO during consultation for review/comment. The CRM Team has participated in Earth Day events and assisted the state Forest Service with a camp week for school-age children. For older students at the university level, the CRM Team offers valuable opportunities for hands-on field work through survey and research projects with Troy University and its internship program. Visitors to ALARNG armories will find several new historical displays and markers installed this year related to Civil Rights; the ALARNG declaration of martial rule for a local area in the 1960s; historic airfields; and more. In FY15, the CRM Team established a new training class for Federal law enforcement who encounter damage to cultural sites. Bringing in around 30 students from CRM and law enforcement areas, the CRM Team trained participants in the intricacies of the Archaeological Resources Protection Act (ARPA) and the processes for pressing charges and making arrests for violations of ARPA. In this way, ALARNG is directly contributing to the preservation and protection of cultural resources both within ALARNG and beyond. The training will aid ALARNG in implementing an ARPA program on their Federal lands.

 