

TENNESSEE VALLEY AUTHORITY

Section 3 Progress Report Executive Order 13287

SEPTEMBER 2014



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I. Introduction

History of TVA

President Franklin D. Roosevelt needed innovative solutions to lift the nation out of the depths of the Great Depression, and TVA is considered one of his most innovative actions. Roosevelt envisioned TVA as an agency different from any other. He asked Congress to create “a corporation clothed with the power of government but possessed of the flexibility and initiative of a private enterprise.” On May 18, 1933, Congress passed the Tennessee Valley Authority Act.

As TVA helped lift the Tennessee Valley out of the Great Depression, it built dams for flood control, provided low-cost power and commercial shipping, restored depleted lands and raised the standard of living across the region.

From its beginning, TVA has held fast to its strategy of integrated resources solutions even as the issues have changed over the years. Each challenge the people of the Tennessee Valley region faced – whether it was the need for power, navigation to transport goods to and from larger markets, flood control, malaria prevention,

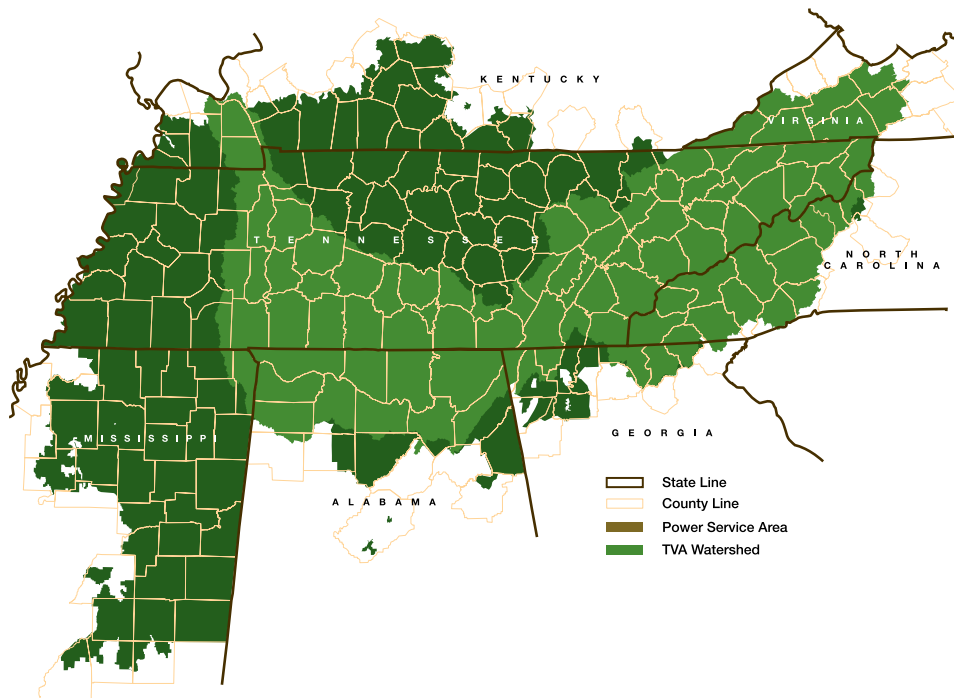
reforestation, or erosion control – was studied in its broadest context.

Today, TVA continues to serve the people of the Tennessee Valley by providing affordable electric power, acting as a steward of the Tennessee Valley’s natural resources and serving as a catalyst for economic development. TVA’s renewed vision is to become one of the nation’s leading providers of low cost and cleaner energy by 2020.

Initially, federal appropriations funded all TVA operations. Appropriations for the TVA power program ended in 1959, and appropriations for TVA’s environmental stewardship and economic development activities were phased out by 1999. TVA is now fully self-financing, funding operations primarily through electricity sales and power system financings.

It is within this broad framework that TVA’s cultural resource staff works to manage the agency’s historic properties.

TVA Power Service and Watershed Areas
AS OF AUGUST 1, 2012



Power Service Area

- 80,000 square miles
- 9 million residents
- 196 counties

Watershed Area

- 41,000 square miles
- 126 counties
- 293,000 acres of public land
- 11,000 miles of shoreline
- 650,000 acres of reservoir water surface



Archaeological investigation at site 31CY293 on Chatuge Reservoir in North Carolina

Cultural Resource Management Programs Under TVA's Natural Resource Plan

TVA continues to manage approximately 293,000 acres of public land and 470,000 acres of inundated land. In 2011, TVA completed a Natural Resource Plan (NRP) to provide the agency with an integrated approach for managing both natural and cultural resources on these lands. Eight cultural resource management programs were established under the NRP that help TVA meet its obligations under the numerous laws and regulations to protect and manage historic properties.

Preservation Program

As a requirement under the National Historic Preservation Act (NHPA), TVA's Preservation program deals with the identification, evaluation and nomination of historic properties to the National Register of Historic Places.

Section 106 Compliance

While Section 106 Compliance is a major component of the agency's Preservation program, this function is managed as a separate program due to the large number of Section 106 Compliance projects

completed by the agency each year. TVA's Section 106 Compliance staff is devoted to making sure the agency meets its NHPA obligations.

Archaeological Site Monitoring and Protection

TVA's Archaeological Site Monitoring and Protection program focuses on the collection of site data for previously identified archaeological sites and prioritization of those with the greatest need for protection. Protection methods include signage, gating, shoreline stabilization, vegetation management and other management activities to reduce resource impacts.

Archaeological Resource Protection Act (ARPA) Enforcement

The ARPA Enforcement program focuses on the protection of archaeological sites through the application of criminal and civil processes identified in the Act. TVA has an active criminal investigation team that monitors archaeological sites on a regular basis and works with U.S. Attorneys in the Tennessee Valley to prosecute individuals charged with acts prohibited under ARPA. In addition, TVA has reestablished

its 1993 Civil ARPA Board Policy to address other violations under ARPA, including land encroachments and permit violations which have impacted archaeological resources.

Native American Consultation

TVA's Native American Liaison coordinates TVA's tribal consultation efforts with federally recognized tribes with an interest in the Tennessee Valley. TVA participates in regular consultation workshops, meetings and teleconferences to coordinate both stewardship efforts and projects pursuant to Section 106 of the NHPA.

Native American Graves Protection and Repatriation Act (NAGPRA)

TVA's NAGPRA program helps ensure the agency's compliance with NAGPRA through the maintenance of its NAGPRA inventory, completing notices in the Federal Register and coordinating the disposition and repatriation process for human remains, associated funerary objects and objects of cultural patrimony found on TVA lands.

Archaeological Outreach (A Thousand Eyes)

TVA established the A Thousand Eyes Outreach program in 2003 to promote awareness of archaeological protection in the Tennessee Valley. As a part of TVA's efforts to expand environmental education, this program has increased its efforts to work with communities and schools in the TVA power service area. These efforts have included over 36 outreach events in the last three years.

Corporate History

TVA's Corporate History program highlights TVA's historic significance through the maintenance of a TVA timeline, website and outreach program. TVA also receives hundreds of requests each year for corporate history information.

Development of a Cultural Resource Management Plan (CRMP)

As part of the Section 106 Compliance for the development of the NRP, TVA committed to establish long-term goals for the management of historic properties and other cultural resources under TVA stewardship through the development of a more detailed Cultural Resource Management Plan. The initial timeframe for the completion of this CRMP was August 2014. However, the project is currently on hold while staff completes a comprehensive and integrated cultural resource database that will help establish a baseline for all TVA cultural data. Developing such a database will require significant effort and is expected to take several years to complete. TVA determined that establishment of a baseline for data such as Section 110 inventory, ARPA enforcement data, shoreline condition status and monitoring data is crucial in the development of a long-term cultural resource management plan. Therefore, a new schedule for the CRMP will be defined once further progress in the database development is made. The database will include components for the functional programs established in the NRP. Additional information on the integrated database development can be found on page 22.



Representatives of some of the federally recognized tribes who attended TVA's NAGPRA Review Process consultation held at Huntsville, Alabama, January 2014

II. Identification: Setting Long-Term Goals And Meeting Archaeological Inventory Challenges

Preservation Program Update

As a part of its Preservation program, TVA is responsible for the identification of historic properties on its fee-owned lands. TVA has recorded over 11,500 archaeological sites thus far. In addition, TVA has inventoried and evaluated 380 buildings and structures under its management for NRHP eligibility. More accurate data on these statistics is anticipated by FY 2015 as TVA completes its comprehensive database. (See page 22 for more information on this effort.)

In the NRP, TVA recognized the importance of continuing its annual archaeological inventory and committed to conducting identification surveys on approximately 1,000 acres each year. It was understood that meeting this and other goals in the NRP would be dependent on availability of funds each year, and the Cultural Resource Management Plan would establish a long-term plan to address this annual need. While completion of the CRMP has been postponed to allow for completion of the database, staff has continued to work on a plan to address archaeological resource needs.

Testing New Technologies

In addition to inventory of lands not previously subject to archaeological surveys, there are many thousands of acres of land where archaeological surveys have been completed using outdated survey methods. This land includes some of TVA's most significant resources. In order to balance the need to better manage its most unique resources with the necessity to identify previously unrecorded sites, TVA plans to adjust its initial goals to allow for flexibility in Section 110 planning each year. The identification of new sites will be balanced with the re-investigation of previously identified resources to determine resource protection and management needs, particularly for those sites that have not been examined since TVA's initial

archaeological efforts in the 1930s and 1940s. This focus on previously identified sites has allowed TVA to test the utility of alternative identification methods as a management and identification tool. Furthermore, the extensive unsurveyed lands and known sites under TVA management coupled with budgetary constraints and discipline-wide curation issues leads to a daunting cultural resource management task. To this end, TVA is testing alternative tools for cultural resource identification and management such as Ground Penetrating Radar (GPR) and Light Detection and Ranging (LiDAR).

Reaching Deeply Buried Deposits Using Mechanical Augering Methods

In 2012, TVA set out to reach its NRP goals and test new methods by contracting with Tennessee Valley Archaeological Research to conduct a Phase I archaeological survey on a 1,000-acre tract in the Raccoon Creek Wildlife Management Area (WMA) on Guntersville Reservoir in Jackson County, Alabama. This land is under easement with the Alabama Department of Conservation and Natural Resources (ADCNR) for natural resource management. ADCNR oversees approximately 43,572 acres of land in the state of Alabama through easements and licenses for wildlife management.

The Raccoon Creek WMA tract includes several sites excavated in the 1930s as a result of the Works Progress Administration (WPA), including the well-known Cox Mound Site (1Ja176), as well as hundreds of acres that had not been systematically surveyed. In an effort to examine deeply buried archaeological deposits on the alluvial terrace, TVA's contractors employed mechanical auger testing as their primary method of investigation rather than standard shovel testing. The sites present included extremely dense deposits rich in artifacts which resulted in the need for off-site water screening. The augering was successful



Material recovered from one auger test in the Raccoon Creek survey

in identifying deeply buried deposits in locations that were missed by traditional shovel testing. However, the unexpected density of these sites led to project delays and the reduction of the survey area to 300 acres to fit within the allotted budget. It also resulted in the accumulation of a very large collection of artifacts, which added significant curatorial costs.

In addition, the application of mechanical augering methods and use of an off-site water screen resulted in an inadvertent discovery of human remains, which raised many concerns from the federally recognized tribes who were consulted on this project. As a result, TVA agreed to explore noninvasive technology for future projects conducted within sites known to contain human burials. TVA also agreed to increase the involvement of tribes that have an interest in the Tennessee Valley for other stewardship efforts related to archaeological resources on TVA land.

Exploration of Noninvasive Technologies

TVA continues to recognize that mechanical augering can be a valuable tool for investigating deeply buried deposits within archaeological sites. However, it is not always necessary when site conditions allow for noninvasive technology in lieu of ground disturbing methods. As a result of the experience at Raccoon Creek WMA, TVA is investigating other options for completing its Section 110 obligations for archaeological inventory, discussed below.

Geophysical Survey

While the use of noninvasive technology is not common in the Phase I identification process for Section 110 inventories, TVA has had great success in using similar techniques in alluvial settings for the identification of buried features for Section 106 projects. Through its consultant, New South Associates Inc., TVA revisited the same 300-acre Raccoon Creek WMA tract in 2013 using geophysical techniques in an effort to compare results with its 2012 archaeological survey.

Both the auger and geophysical testing re-examined several previously excavated archaeological sites within the survey tract. Results of the geophysical testing indicate that intact features are still present across the site in spite of the large amount of extensive WPA excavations. This was not a surprise given the density of materials recovered during the auger testing.

A significant amount of data was collected from both the magnetometer and Ground Penetrating Radar (GPR) testing, giving TVA insight into feature densities within site boundaries previously identified from traditional excavation methods as well as identifying potential features outside these identified boundaries. The technique also allows for examination of archaeological landscapes, broadening our traditional perspective on site significance. Coupled with sufficient excavation (ground truthing), geophysical



Ground Penetrating Radar (GPR) testing

sampling can provide a significant amount of data on archaeological sites not readily visible through traditional Phase I survey techniques.

Based on the success of these findings, TVA initiated a geophysical survey in 2014 at the Bell Site (40RE1) on Watts Bar Reservoir in Roane County, Tennessee. The Bell Site was excavated during the 1930s as a part of the Watts Bar Basin survey, but the associated records are very limited and little is known about the site beyond the artifacts that currently exist in the collections at the University of Tennessee. The results of the WPA excavations were never completed. Geophysical testing at the Bell Site allowed TVA to identify the location of these early excavations, as well as the location of the plaza, palisaded walls and the remaining mounds recorded in the 1930s. One additional mound also was detected, and it is clear from the survey results that many intact features are still present. A preliminary report of this testing

indicates that other unknown features also were identified, but the complete results were not available at the time of this publication.

These initial findings show that geophysical technology can greatly improve our insight into the current condition of previously recorded archaeological sites. It appears to be best utilized on land tracts on archaeological sites where limited baseline information has been collected. TVA manages a number of archaeological sites that were recorded many years prior to establishment of modern archaeological techniques. Geophysical survey appears to be an extremely useful tool for re-examining these resources and identifying the potential for features that would not be identified through traditional Phase I techniques. Many sites previously thought to be destroyed from excavation likely have retained significant numbers of intact features that could provide valuable data to be used in comparison with older collections.

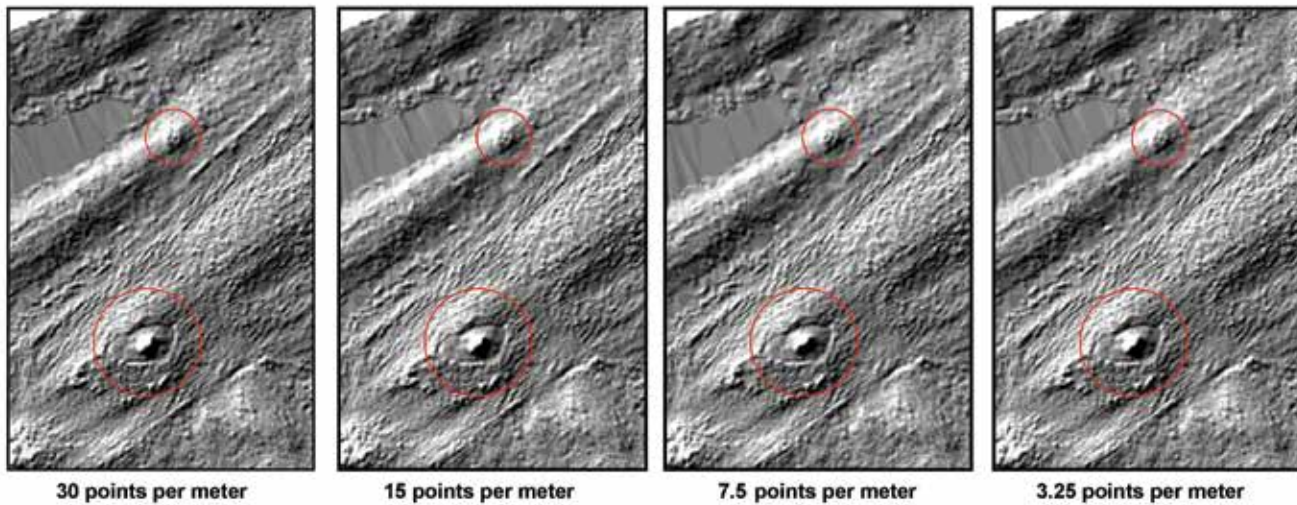
The technology also provides an opportunity to estimate feature density without having to manage large numbers of new collections. This is becoming more important as our curation facilities approach full capacity.

Light Detection and Ranging

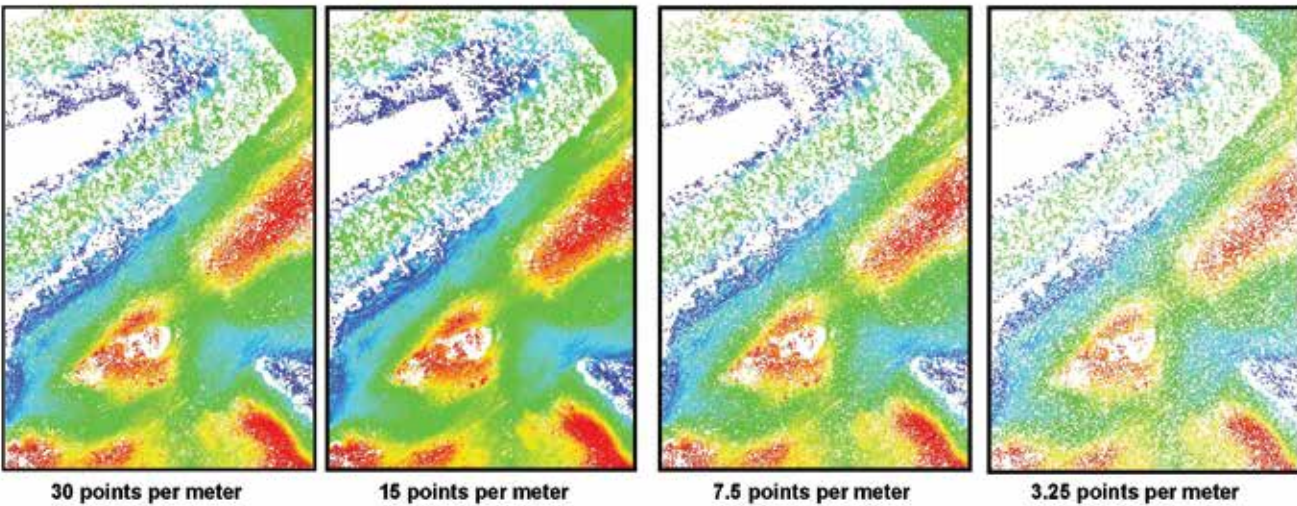
In 2013, TVA conducted a pilot program to examine the effectiveness of Light Detection And Ranging (LiDAR) for identifying elevation sensitive archaeological deposits at Hiwassee Island (40MG31)

and evaluating the utility of LiDAR as a cultural resource management tool. The island contains one of the most important Mississippian village complexes in the southern Appalachian region. LiDAR and aerial photography were provided by Tuck Mapping Solutions, Big Stone Gap, Virginia. The LiDAR data located the remnants of seven mounds that were excavated or tested during the WPA era. In fact, two mounds located at the north end of the island were not previously known to be extant.

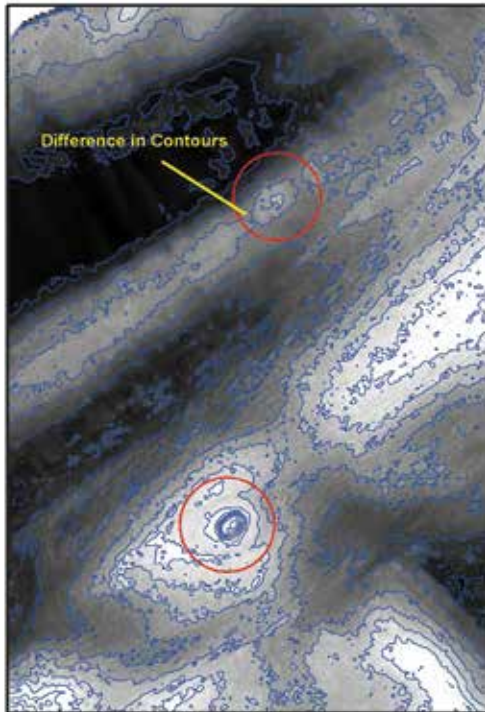
**Comparison of Hillshades by Density
SUBSET OF HIWASSEE ISLAND**



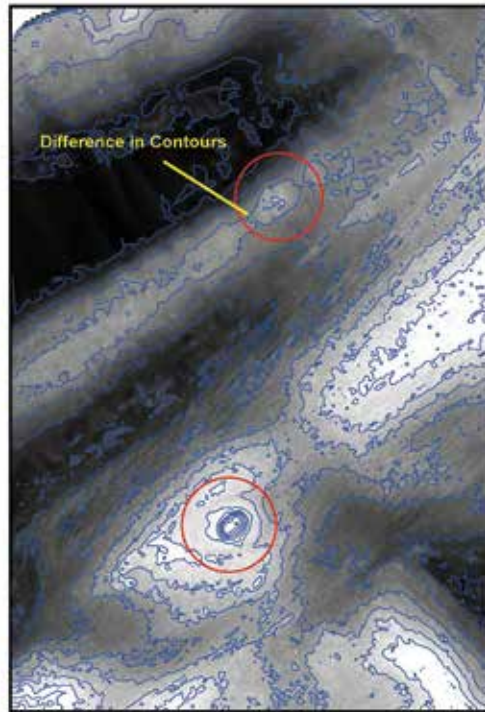
**Comparison of LiDAR Point Density
SUBSET OF HIWASSEE ISLAND**



Comparison of Contours From Different Density LiDAR

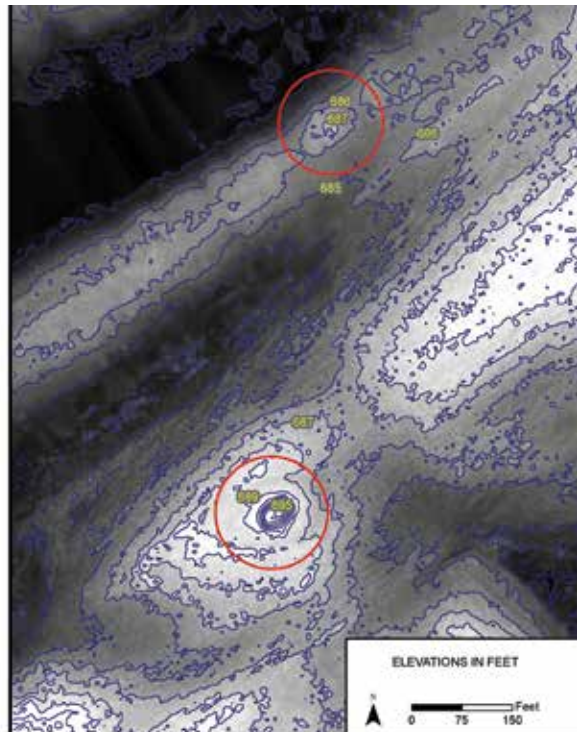


Contours from 30 Points per Meter LiDAR



Contours from 3.5 Points per Meter LiDAR

Elevation Contours Overlaid on DEM Showing Known Mounds



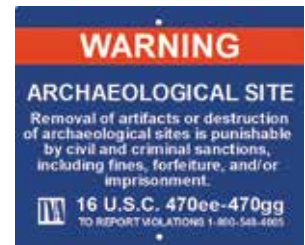
III. Protecting Our Heritage

Archaeological Site Protection Efforts

Archaeological sites on TVA public land are generally located adjacent to TVA-managed rivers and reservoirs and therefore are subject to erosion activity as a result of reservoir operations and boat traffic along the river system. Consequently, the primary method for site protection is the placement of riprap along the shoreline to stabilize the banks and reduce erosion. This effort also helps protect the resource from unauthorized excavation and artifact removal which is common along eroded shorelines. Other methods of protection include signage, fencing and placement of gates in cave entrances.

Since the 2011 Section 3 Report, TVA has protected over 12,800 linear feet of shoreline including 14 archaeological sites. In addition, in 2014 TVA protected one cave with sensitive archaeological resources. TVA continues to place signage at access points (launching ramps, trail heads, etc.) seeking the public's support in protecting archaeological resources while warning them of the penalties associated with violation of the Archaeological Resource Protection

Act. Signs also have been placed at known archaeological sites warning the public that damage to the site or removal of artifacts may result in criminal or civil penalties.



TVA manages a significant number of archaeological sites that are in serious need of permanent protection through riprap stabilization. Given that archaeological sites cannot be graded to a gentle slope (bank shaping or excavation), this method of protection can be very expensive. As a result, given its limited budget, TVA must prioritize sites according to need. To aid in this effort, the Archaeological Site Protection and Monitoring team for the CRMP established formal criteria for the prioritization and ranking of archaeological sites in need of protection. This ranking process is based on criteria such as severity of erosion, presence of features or burials and documented looting activity at the site. This process is further discussed in the Database section of this report.



Shoreline stabilization at Gunterville



Cave gating at Norris

Archaeological Monitoring

Reservoir Operations Compliance

FY 2014 marked the 10th year of archaeological site erosion monitoring under TVA's revised reservoir operating policy. The erosion monitoring is implemented under a program called Reservoir Operations Compliance. From 2012 to 2014, TVA monitored erosion at 426 archaeological sites on 11 reservoirs and identified severe erosion at 112 archaeological sites. On average across all reservoirs, TVA found that archaeological sites are eroding at one horizontal foot per year. For larger, linear-shaped sites paralleling the river, the total area lost per year can be in the hundreds of feet. Reservoir Operations Compliance erosion monitoring is projected to continue through FY 2030.

Stewardship Efforts and NRP Commitments

TVA's Archaeological Site Protection and Monitoring team also identified criteria to use in ranking archaeological sites on TVA land in need of monitoring activities. Monitoring can be done in a number of different ways, and TVA established three types of monitoring activities that will be developed as a part of TVA's Cultural Resource Management Plan.

Monitoring by Professional Archaeologists

In the NRP, TVA established a goal to monitor 1,000 previously recorded sites each year to provide updates to the state site forms and provide baseline data to be used in ARPA enforcement and site protection. This program is still in its initial stages and is anticipated to begin in FY 2015.

Monitoring by Volunteer Site Stewards

As a part of its A Thousand Eyes archaeological outreach program, TVA will develop a site stewardship program that will solicit volunteers through the Volunteer.gov website. Volunteers will receive formal training in monitoring select archaeological sites on TVA public land. Sites selected for this monitoring program will meet criteria such as location and accessibility established by the team and will be monitored on a regular basis by volunteers who will record and provide information to TVA. TVA anticipates a pilot program for this effort at Painted Bluff in 2015.

Monitoring by Noncultural Resource Employees

TVA initiated an effort in 2013 where noncultural resource staff assist in the monitoring of archaeological

resources. This activity can include the regular monitoring of sites that have already been subject to protection efforts such as cave gates, signage or shoreline stabilization. Staff is assigned to check the site on a regular basis depending on the vulnerability of the resource and notify cultural resource staff of any changes.

ARPA Enforcement

The ARPA enforcement program focuses on reducing the destruction and removal of archaeological artifacts from protected archaeological sites on TVA-managed land through the criminal prosecution process outlined in the Act. Archaeological sites on TVA public land are vulnerable to looting activity, given their proximity to the water and remote location. TVA's ARPA Investigations team provides patrols and monitors archaeological sites across the Tennessee Valley. TVA continues to employ police investigators devoted to ARPA enforcement and has had a very successful three years with 33 misdemeanor criminal prosecutions for violations under ARPA, as well as Theft of Government Property. In addition, TVA has worked with the U.S. Attorneys in North Alabama and East Tennessee to issue eight indictments for felony violations of ARPA in an ongoing investigation of artifact removal and looting along the Tennessee River. This case is a joint investigation with the National Park Service (NPS). Efforts to prosecute individuals has helped to reduce some looting activity, but serious violations continue to occur.

During FY 2012, TVA adopted a new strategy for agency security and eliminated its police patrols on TVA-managed land in order to focus more attention on its generating and transmission assets. This change resulted in an increased dependence on local and state law enforcement officers to monitor illegal activities on land managed by TVA. TVA's ARPA Investigations team has been working to improve protection efforts by educating local and state law enforcement agencies on the need for archaeological site protection. As a result, several of the successful ARPA convictions that have occurred during the last three years were initiated by state officers from the Alabama Department of Conservation and Natural Resources.

TVA plans to continue its efforts to expand partnerships with local, state and federal law enforcement agencies to protect archaeological resources from unauthorized activities.

Section 106 Compliance

As a federal agency, TVA is responsible for identifying and protecting historic properties both on and off TVA public land when an action requires TVA involvement. Between October 2012 and September 2014, TVA's cultural resource staff reviewed approximately 3,600 federal undertakings for effects on historic properties pursuant to Section 106 of the NHPA. During this time, TVA also consulted with state historic preservation offices (SHPOs) and federally recognized Indian tribes regarding approximately 209 separate undertakings.

These undertakings ranged from 26a permits for private floating docks to construction of new emission control equipment at TVA fossil plants. TVA's Section 106 review and consultation has led to some positive outcomes for cultural resources. Some recent examples are provided below.

Downtown Knoxville Parking Garage

TVA participated in a project with the city of Knoxville and an outside developer to construct a parking garage in downtown Knoxville. As the city continues to grow and develop, it is experiencing a substantial increase

in parking needs. The project was subject to Section 106 Compliance because of federal involvement, and a Phase I cultural resources survey was conducted in October 2012. Because the block already had an existing parking lot in place, TVA conducted ground penetrating radar (GPR) and trenching to identify archaeological resources within the proposed garage footprint. An archaeological site (40KN334), dating to the postbellum era of Reconstruction and Southern recovery in the early 1900s, was identified and determined eligible for the National Register of Historic Places. TVA developed a memorandum of agreement (MOA) with the city of Knoxville and the Tennessee State Historic Preservation Office to mitigate the adverse effects. Phase III Data Recovery was conducted on the site during June and July 2013.

Artifacts recovered from the site as part of the data recovery project indicate that the occupation of this block may have occurred as early as 1820. While the earliest documented structure was not built until the 1870s, the presence of Civil War munitions suggest that soldiers may have passed through the area on their way to and from nearby encampments.



Excavations at Knoxville parking garage site



TVA archaeologists showing artifacts to the public at the Parking Garage Project Outreach event in Knoxville, Tennessee

During the reconstruction period, the block contained the residence of Peter Kern, a successful businessman who later served as Knoxville's mayor (from 1890-1892). Material recovered from these deposits demonstrates the relative wealth of the area, which likely was a middle- or lower upper-class neighborhood.

In the early 1890s, a mission house was established at the site housing children and "wayward" women as indicated by the large number of doll fragments and the presence of a large excavated area, believed to be the location of a historically documented dungeon that housed delinquent females. These structures were later razed and an apartment complex was located on the block until recently.

Excavations at site 40KN334 provide clues to how Knoxville adjusted to many socioeconomic changes

that occurred since the antebellum period and highlight the importance of conducting surveys in urban areas that initially may seem highly disturbed.

TVA hosted an open house at the site on July 13, 2013, to give the public an opportunity to watch the ongoing excavation, view recovered artifacts and speak to archaeologists about their findings. Over 200 people visited the site during this event. TVA staff archaeologists were present to talk about the protection of archaeological sites on TVA public land. Additionally, TVA partnered with the East Tennessee Historical Society to host a brown bag lecture at the Museum of East Tennessee History on Jan. 16, 2014. The lecture gave the public another opportunity to view recovered artifacts and hear the archaeologists discuss their official findings. Over 100 people attended this lecture.

Emission Controls at Gallatin Fossil Plant

In 2012, to comply with Utility Mercury Air Toxics Standards and 2011 Clean Air Act agreements, TVA proposed to install additional emission control equipment and associated facilities, including a dry coal combustion residue landfill, at its Gallatin Fossil Plant in Sumner County, Tennessee. As a part of this undertaking, TVA completed numerous cultural resources surveys within the Area of Potential Effects between 2010 and 2013. Twenty-three archaeological sites were identified as a result of these surveys. Four of these were rock cairn sites with a total of 96 rock cairns identified. In 2012, TVA entered into a programmatic agreement (PA) with the Tennessee State Historic Preservation Office outlining stipulations to ensure historic properties were identified and avoided during construction. A 100-meter buffer was placed on each rock cairn site and no work was allowed within this area. If it is determined at some point that avoidance is not feasible, a memorandum of agreement will be developed in consultation with the SHPO and federally recognized Indian tribes to address mitigation of any adverse effects.

Hollister House

In 2011, TVA purchased 1,253 acres adjacent to the Cumberland Fossil Plant reservation to expand the

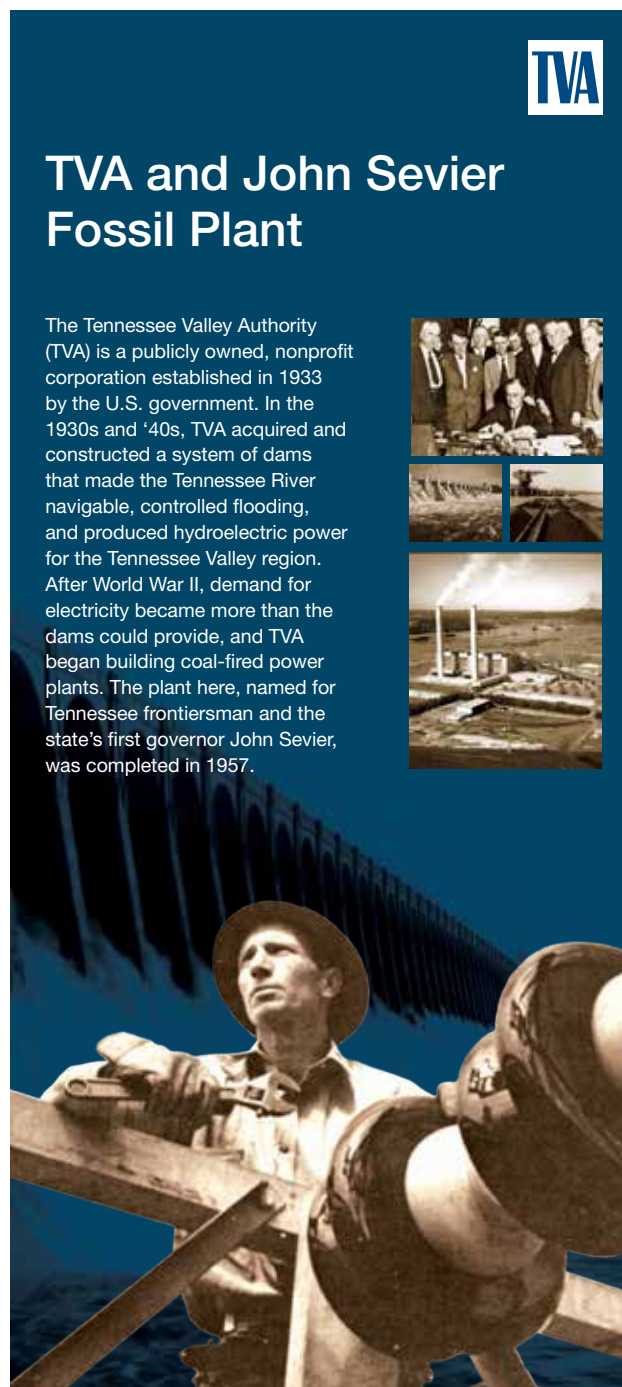
plant boundary. Located on the purchased property was the Henry Hollister House, a circa 1850 brick house that was added to the National Register of Historic Places (NRHP) in 1988. The house is significant for its association with Henry Hollister, an early iron furnace owner, and as a local example of the transitional Greek Revival/Italianate architectural style. According to one historic document, the house was visited by General U. S. Grant during the Civil War. TVA performed architectural and structural engineering assessments and found that the house possesses both structural and historic integrity. TVA also performed an archaeological survey of the 4.7 acre tax property, including shovel testing, remote sensing and test unit excavation, and identified a historic archaeological site associated with the historic occupation of the house that is eligible for the NRHP. TVA proposes to auction the historic property with the 4.7 acre tract and has developed, in consultation, a historical deed covenant that would be attached to any sale or transfer instrument from TVA to the selected buyer. As an outcome of the purchase of the Hollister House, the cultural resource staff has provided training to internal business units regarding TVA's NHPA Section 110 responsibilities and the importance of taking historic properties into account when acquiring new property for undertakings.



1850 Hollister House that was added to the National Register of Historic Places in 1988

John Sevier Fossil Plant

TVA proposes to retire Units 3 and 4 at John Sevier Fossil Plant (JSF) in Hawkins County, Tennessee, and to demolish some or all of its associated structures. TVA in consultation with the Tennessee SHPO has determined that JSF is eligible for inclusion in the National Register of Historic Places. In 2013, in a separate undertaking, TVA retired Units 1 and 2, idled Units 3 and 4 and committed to retiring Units 3 and 4 by Dec. 31, 2015, in accordance with TVA's agreement with the U.S. Environmental Protection Agency under the Clean Air Act. TVA and the Tennessee SHPO agreed that those actions would result in an adverse effect to JSF. In September 2013, TVA and SHPO entered into a memorandum of agreement that addresses measures for the avoidance, minimization and mitigation of adverse effects to JSF from the decommissioning/retirement project. As stipulated by the MOA, TVA has taken steps to mitigate the adverse effects to JSF. Those steps consist of (1) preparing documentation required for the Historic American Engineering Records (HAER) and submitting the documentation to the National Park Service for review; and (2) installing interpretive panels on TVA property at a location accessible to the public. TVA submitted the final HAER documentation to the NPS in June 2014. The final submission included all of the changes requested by the NPS and closely follows the Historic American Buildings Survey (HABS) and HAER guidelines published by the NPS, as stipulated by the MOA. TVA hired the Tombras Group, a professional advertising agency, to design five interpretive panels which present information about the history and architecture of JSF and its historical significance. The panels use images provided by TVA's historian and text composed by TVA staff working closely with the Tombras Group. TVA will install the panels, protected by a covered kiosk, within a public parking area on TVA Road, a public road that leads to TVA's John Sevier Combined Combustion facility and a public fishing area. Local residents use the parking area to access a public walking track on TVA property. Installation of the panels is scheduled for September 2014.



John Sevier Fossil Plant interpretive panel example

A Thousand Eyes: Internal and External Training/Outreach

TVA's archaeological outreach is conducted through its A Thousand Eyes program, which was established in 2003. As part of the NRP, TVA committed to host five-10 outreach events each year, and TVA has been successful in reaching this goal since the NRP's enactment. In the last three years, TVA has conducted numerous outreach events in schools throughout the Valley. These events utilize experimental archaeology toolkits designed by TVA cultural resource staff to provide children hands-on activities while teaching them about the region's prehistory and TVA's stewardship responsibilities. TVA also conducted several outreach events focused on adult audiences including giving lectures to college students and civic groups as well as bringing in professional experts to speak to local communities about their research. TVA cultural resource staff has worked toward establishing partnerships in order to increase these public outreach efforts. For example, TVA has partnered with Redstone Arsenal to host an Archaeology Day event in Huntsville, Alabama. This event has grown in participation and attendance during the three years TVA has participated.

In FY 2012, an archaeological outreach team was established to develop a program scope and outline for the Cultural Resource Management Plan. One of

the goals was to draft criteria to prioritize outreach activities by focusing on regions that are most threatened by looting and other forms of intentional and unintentional destruction. Another goal was to ensure that the program aligns closely with the TVA's ARPA enforcement activities. A key task for the group was to identify appropriate branding for archaeological messaging that would be appealing to the general public. Toward this goal, the team worked with TVA media design staff to create an appropriate identifier for its A Thousand Eyes program. TVA sought input from the 18 federally recognized tribes on potential Native American images that would fit with the program's name. After considering several options, the team ultimately agreed on the weeping-eyed warrior. This identifier was incorporated into a design which will be used on stickers, handouts, magnets and other forms of media to educate local law enforcement and members of the public on the need to protect archaeological sites on TVA public land.

While promoting archaeological awareness to the public remains the primary goal for the program, TVA also recognizes the need for employee education and training. In April 2013, TVA asked the Advisory Council on Historic Preservation to provide a day-long, TVA-specific onsite training session for managers and senior managers within the agency who work with the cultural resource program or who are responsible for projects that require reviews under Section 106. Over 30 staff members and managers attended the training. TVA cultural resource staff also conducted internal training sessions for various project managers in an effort to increase knowledge and awareness of TVA responsibilities in historic preservation compliance.

Media Outreach

During FY 2013 and FY 2014, TVA staff had the opportunity to educate Tennessee Valley residents, using a variety of media outlets, about the historical significance of TVA, the importance of protecting and preserving historic properties and the penalties associated with the ARPA.

80th Anniversary

As part of TVA's 80th anniversary celebration on May 18, 2013, TVA's historian visited 14 newspapers, four radio stations and five television affiliates in East and Middle Tennessee to promote TVA's history. Much of this outreach focused on highlighting TVA's role in improving the quality of life in the Tennessee Valley.



Thousand Eyes outreach design

Boone Reservoir Drawdown

TVA visited media outlets in the Johnson City and Kingsport area of East Tennessee to inform the public about the lowering of Boone Reservoir for routine maintenance. In addition to providing information on the need for the drawdown, TVA staff emphasized the importance of cultural resources and was instrumental in appealing to the public to help protect the archaeological resources that might be visible during the drawdown.

ARPA Awareness

In 2014, as part of an annual river tour for members of the media, TVA staff provided messaging about significant archaeological resources in the Valley – why they are important, why they should be protected and how they are protected under ARPA. This message was delivered to 25 different media outlets.

Boone Dam Pilot Project for Student Outreach

In May 2014, fifth-grade elementary students in Sullivan County, Tennessee, participated in a



Sullivan County students learn how Native Americans decorated pottery

pilot project to learn about TVA. Teams from each elementary school in the county created projects that touched on some aspect of TVA – from economic development to engineering. The teams with the best projects won a day at Boone Dam that consisted of a tour of the facility along with visits to various stations to learn more about the history of the dam, the archaeology and culture of the region, and water safety. Thirty-nine children, along with chaperones and teachers, enjoyed a day of learning.

Integration With Other Natural Resource Management Responsibilities

In an effort to expand the agency's cultural resource management efforts, TVA has integrated many of its cultural programs with other natural resource management responsibilities. As a result, staff working in other fields have received training in the implementation of cultural resource functions such as site stabilization and monitoring of archaeological sites. This has allowed for greater protection of resources across the Valley, particularly at locations difficult to visit on a regular basis. In concert with internal training opportunities, this effort has given noncultural resource staff a greater appreciation for the presence of archaeological sites on TVA public lands and helped to improve TVA's project planning.

Painted Bluff Rock Art Site

Painted Bluff, an open-air rock art site located in Marshall County, Alabama, contains over 80 individual recorded prehistoric glyphs that include common Southeastern motifs such as human and animal effigies, ovals, circles, serpents and birds. These glyphs are made up of red, yellow and orange hematite pictographs and engravings along two separate bluff ledges along the Tennessee River. Open air rock-art sites of this type are nearly unique to the Southeast, and Painted Bluff represents one of the most significant in the region.

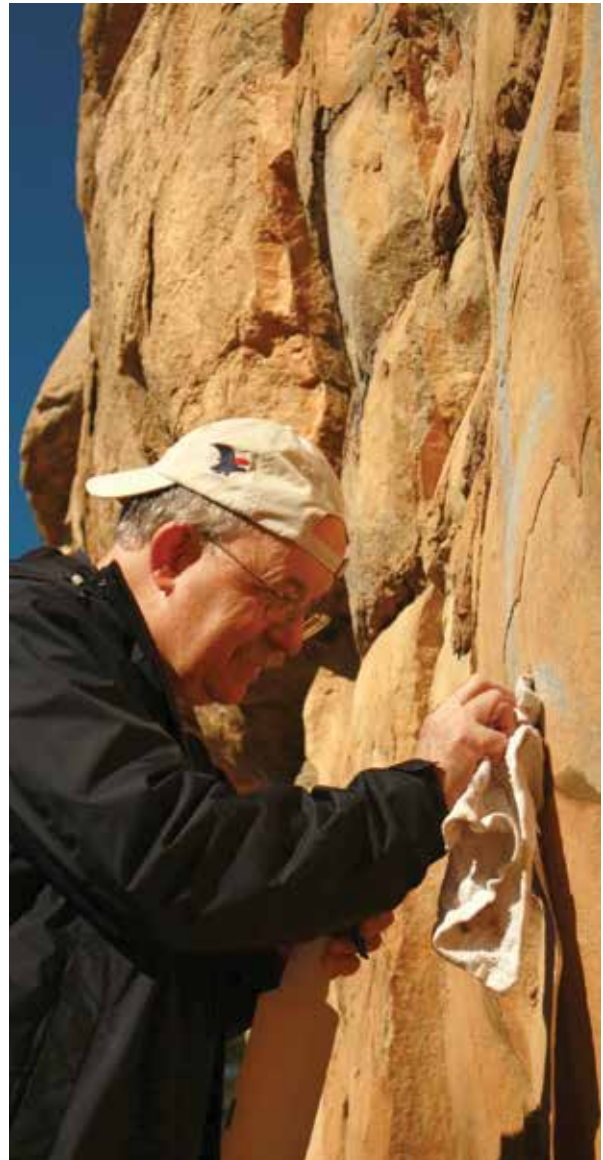
The site was first noted in a 1959 publication by James W. Cambron and Spencer A. Waters who described six large circles on the upper ledge of the bluff. At this time, modern graffiti had already impacted the glyphs, and the true extent of art along the bluff is unknown. The site was revisited numerous times during TVA archaeological inventory surveys along the reservoir, but was not intensively documented until 2004, when archaeologists from the University of Tennessee visited the site and attempted to document the extent of

images across the entire site. In addition to prehistoric glyphs, numerous historic glyphs and signatures also are present along the panels.

In 2013, Painted Bluff was listed as one of Alabama's top 10 Places in Peril as a result of extensive vandalism, natural weathering and dispersed recreation activities. In response to this nomination, TVA undertook a restoration project in 2014 to remove and camouflage the graffiti that had been accumulating since the 1800s. TVA contracted with rock art conservation specialist Dr. Jannie Loubser to conduct this work with the assistance of TVA staff, the universities of Alabama and Tennessee and a host of volunteers.

Graffiti was removed and camouflaged from 122 surfaces along the lower bluff. Following completion of the conservation project, TVA staff and Dr. Loubser revisited the site and did additional documentation of the glyphs. Several new, unrecorded areas of artwork were identified once the disturbing graffiti was removed.

Future plans for Painted Bluff include a pilot archaeological monitoring program and the addition of interpretative materials at the site. TVA will continue to monitor and protect the site from further vandalism and hopes to solicit help from the tribes and members of the public to ensure the protection of this unique resource.



Dr. Jannie Loubser and a team of volunteers work to remove graffiti at Painted Bluff Rock Art Site

IV. Promoting Heritage Tourism

Muscle Shoals Reservation Redevelopment Project Update

In preparation for disposing of 1,400 acres of TVA's Muscle Shoals Reservation in Colbert County, Alabama, for the purpose of potential redevelopment, TVA executed an MOA with the Alabama SHPO which identified 19 historic structures suitable for adaptive reuse. The remaining 21 buildings were demolished following HABS documentation. Design guidelines based on the Secretary's Standards for the Treatment of Historic Properties were developed and will be part of any legal instrument prior to the transfer or sale of the remaining properties. In addition, TVA is currently preparing a National Register nomination for the Muscle Shoals Reservation Historic District. The district will eventually be annexed by the cities of Sheffield and Muscle Shoals. TVA also is working with the cities of Sheffield and Muscle Shoals to design a comprehensive master plan that will promote the

use of these historic structures. Finally, in order to mitigate the adverse effects of two archaeological sites associated with Wilson Village No. 2, TVA contracted to collect oral histories of inhabitants of the village that can be incorporated in future heritage tourism projects.

TVA Visitor Centers

TVA has four visitor centers which promote the history of TVA and the natural and cultural resources of the region. These centers are located at Norris Dam in East Tennessee, Fontana Dam in western North Carolina, Kentucky Dam near Paducah, Kentucky, and at the Raccoon Mountain Pumped Storage Facility near Chattanooga, Tennessee. These centers are open seasonally from late spring through the fall. Over 130,000 people visited these facilities during fiscal years 2012 and 2013, and about 60,000 visitors are expected in FY 2014.



Visitor Center at Raccoon Mountain Pumped Storage Facility

V. Update On Other Cultural Resource Program Areas

Tribal Involvement in Historic Property Management

As part of its obligations under the National Historic Preservation Act, TVA is mandated to consult with federally recognized tribes regarding properties that may have religious or cultural significance to them. There are 17 federally recognized tribes that have notified TVA that they have a religious or cultural interest in the Tennessee Valley:

- Absentee-Shawnee Tribe of Oklahoma
- Alabama-Coushatta Tribe of Texas
- Alabama Quassarte Tribal Town
- Cherokee Nation
- The Chickasaw Nation
- Choctaw Nation of Oklahoma
- Eastern Band of Cherokee Indians
- Eastern Shawnee Tribe of Oklahoma
- Jena Band of Choctaw Indians
- Kialegee Tribal Town
- Mississippi Band of Choctaw Indians
- Muscogee (Creek) Nation of Oklahoma
- Poarch Band of Creek Indians
- Seminole Nation of Oklahoma
- Shawnee Tribe
- Thlopthlocco Tribal Town

- United Keetoowah Band of Cherokee Indians in Oklahoma

TVA staff has worked to build and maintain strong relationships with these tribes, and TVA looks continuously for opportunities to partner on projects. TVA consults and communicates with these federally recognized tribes in a variety of ways:

TVA-Native American Consultation Workshops

TVA hosted its first TVA-Native American Consultation Workshop in Nashville, Tennessee, in 2002, to begin a dialogue with the tribes regarding its efforts under NHPA, ARPA, and NAGPRA. At that workshop, TVA committed to invite two representatives from each of the interested tribes to a workshop every five years. The 2007 workshop, held in Knoxville, Tennessee, continued the dialogue begun in 2002. The 2012 workshop provided an opportunity for TVA and the tribes to have meaningful discussions about issues that are important to both the tribes and TVA, including the NAGPRA, tribal consultation efforts and partnership opportunities. TVA also arranged for a site visit to allow its guests to gain firsthand experience regarding places of interest to them in the Valley region.



2012 TVA-Native American Consultation Workshop

At the 2012 TVA-Native American Consultation Workshop, TVA committed to review its current Section 106 and Section 110 consultation processes. TVA reviewed its cultural resource processes including those for Section 106 and 110 and developed workflow charts as part of work to develop a cultural resource management plan. TVA plans to consult with the tribes regarding the CRMP and internal processes for Section 110 and Section 106 of the NHPA. TVA will continue to follow its current consultation process with the 17 federally recognized tribes who have a religious and cultural interest in the TVA power service area until we implement a process change.

Eighteen representatives from the following 10 federally recognized tribes attended the 2012 workshop: Cherokee Nation, Eastern Band of Cherokee Indians, the Chickasaw Nation, Choctaw Nation of Oklahoma, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Muscogee (Creek) Nation of Oklahoma, Thlopthlocco Tribal Town, and the Seminole Tribe of Florida. (Note: In February 2014, the Seminole Tribe of Florida informed TVA that they consider TVA lands to be outside their geographical area of interest.) The next workshop is scheduled for May 2017.

Over the past three years, TVA completed consultation on several projects outside the TVA power service area. TVA consulted on projects located in Kansas, Illinois and North Dakota and initiated consultation with 28 federally recognized tribes.

Face-to-Face Meetings

TVA participates in a three types of face-to-face meetings. The first type of meeting is one arranged to consult on a specific issue. For example, in January 2014, TVA held a consultation meeting to discuss TVA's NAGPRA Repatriation Process as well as some proposed preservation projects. Twelve tribal representatives from 10 federally recognized tribes met with us in Huntsville, Alabama, and provided input on our proposed projects.

The second type of face-to-face meeting occurs when TVA management and staff visit specific tribes at their governmental offices. TVA management and staff have visited each tribe with an interest in the Tennessee Valley at their governmental offices.

The third type of face-to-face meeting occurs when

TVA hosts a meeting as part of a bigger conference. For example, in April 2014, TVA had the opportunity to schedule a break-out session as part of the annual "To Bridge A Gap" conference organized by tribes and the U.S. Forest Service. TVA met with seven tribal representatives from four federally recognized tribes to discuss a variety of topics ranging from better communications efforts to specific projects such as the Painted Bluff Rock Art Conservation Project.

Monthly Teleconferences

As part of our efforts to improve communications with tribes who are located far from the Tennessee Valley, TVA instituted a monthly teleconference in March 2014. These calls are a way to keep everyone informed of the work we are doing and to provide a forum for questions or other discussions that need to occur.

Section 106 Consultation Via Letters

TVA consulted with federally recognized tribes on 52 separate undertakings in FY 2012, on 70 separate undertakings during FY 2013, and on 79 separate undertakings so far in FY2014.

Development of an Integrated Cultural Resource Database

As noted in the 2011 Section 3 Progress Report, TVA is developing an integrated cultural database, or IDC, as part of its Cultural Resource Management Plan. The IDC consolidates multiple legacy databases and provides a graphical user interface (GUI) for streamlining Section 106 project reviews and stewardship activities. The IDC development team is a multidisciplinary team consisting of a TVA project manager, software engineers and cultural resource staff.

Project Milestones

The IDC project was initiated in 2013, and the team focused on two project management phases, "Study Phase" and "Design Phase." The Study Phase focused on understanding the current state of TVA's cultural resource databases and conceptualizing a future integrated database. The Design Phase was a collaborative effort. TVA software engineers educated cultural resource staff on software capabilities, and cultural resource staff educated software engineers on cultural resource management needs. In 2014, the IDC team moved to the "Implementation Phase" by completing Phase I of IDC development.

Integrated Cultural Database Modules

Phase I of IDC development involved five GUI modules dedicated to different aspects of cultural resource management: Section 110 Inventory, Section 106 Compliance, Archaeological Site Protection, Cemeteries and TVA Corporate History.

Section 110 Inventory

The Section 110 module provides the baseline of historic property and survey data for the agency's Section 110 responsibilities. The data includes all primary data related to a historic property record such as cultural affiliation, associated report references and condition. This primary data record will be the foundation for other related records associated with a particular historic property such as a related Section 106 undertaking, ARPA violation or associated method for site protection.

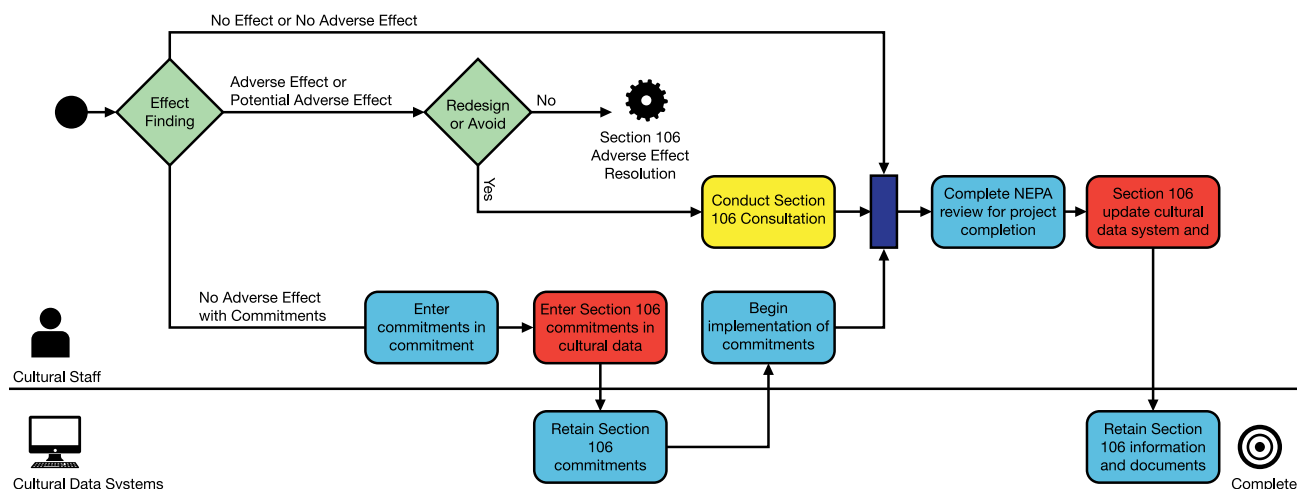
Section 106 Compliance

The Section 106 module consolidates various aspects of the Section 106 process from the initial collection of background information to the conclusion of Section 106 consultation. The reporting function conforms to the documentation standards outlined in 36 CFR 800.11 (d) and (e) ensuring consulting parties have the information necessary for timely review and comment. In FY 2015, TVA will be developing the IDC Web interface where undertakings can be digitally coordinated with consulting parties.

Archaeological Site Protection

The Archaeological Site Protection module is focused on the identification of site protection needs for each of the archaeological sites identified in the Section 110 inventory. It establishes a format for entering shoreline statistics to aid the agency in the identification of critically impaired archaeological sites. The data will be used to prioritize and rank archaeological sites each year in order for staff archaeologists to identify those sites in the greatest need of protection. Protection measures may include shoreline stabilization, monitoring by TVA Police or selection of the resource for potential inclusion in the volunteer site stewardship program to be piloted in 2015.

All records associated with potential or actual violations under ARPA will be documented as related records to archaeological sites in the Section 110 Inventory. When TVA receives reports of potential violations, the information can be added as a record into the database and will provide searchable data for archaeological staff and law enforcement when conducting monitoring activities on TVA fee-owned lands. Both criminal and civil cases will be included in this module, and staff will have an accurate and quick way of summarizing annual statistics on the success of its ARPA Enforcement program through the database. This will aid greatly in efforts such as the Annual Report to Congress compiled by the National Park Service.



Example of workflows being developed for cultural resource database

Cemeteries

TVA maintains a database of cemeteries that are affected by reservoir construction projects. TVA creates records of each cemetery and grave that is removed or impacted as a result of these projects. Records include plat maps of the cemeteries and cemetery relocation forms, often signed by the next of kin. TVA receives hundreds of inquiries each year from the public through TVA's Corporate Historian. As a part of the IDC development, this data has been incorporated into a module that is integrated with other cultural resource data on TVA lands. The IDC team also plans to digitize and geo-reference associated records for these cemeteries and provide public access to photographs and maps of interest in addition to cemetery data.

TVA Corporate History

As a part of its Corporate History program, TVA maintains over 17,000 photographs associated with the history of TVA. These records have been scanned and loaded into the IDC and will be geo-referenced to allow staff to access pertinent images associated with TVA's historic properties such as those taken during dam construction projects.

Data Sharing

TVA's IDC team recently met with representatives from the University of Alabama to discuss a cooperative agreement for cultural resource data sharing. The team will pursue data sharing agreements with the seven states within the TVA power service area to further streamline project reviews and stewardship activities.

Next Steps

Development of the IDC will continue into FY 2015 and beyond as the team completes the modules, develops an external GUI and works with other entities to develop appropriate data sharing methods. The team also will continue to scan, digitize and add historic data to the database TVA has accumulated over the past 80 years.

Improvements to Archaeological Curation Collections

TVA has been involved in archaeological excavations since its inception in 1933. As a result, it has acquired numerous collections that are housed in curation facilities across the southeastern United States. Because many of these collections were obtained prior to the passage of 36CFR79 in 1990, the conditions of their initial storage do not meet the federal standards that were established in these regulations.

In 2014, TVA staff began meeting with curators and archaeologists from the University of Tennessee (UT) and the University of Alabama (UA), institutions that house a majority of the materials under TVA's control, to discuss long-term curatorial rehabilitation plans. As a result, TVA intends to include long-term curation goals as a part of its Cultural Resource Management Plan to establish these goals, consolidate material to a set number of repositories and improve communication between TVA and the primary repositories. TVA also will provide funding to UT and UA for students to assist in the rehabilitation of these collections during the 2014-2015 school year.



Current conditions of collections housed at the Office of Archaeological Research in Moundville, Alabama

VI. Summary and Conclusions

TVA made significant improvements to its Preservation program from 2011 to 2014. TVA management support for funding critical programs has added to that success and will set a solid foundation for continuing this progress in the future. TVA now places increased emphasis on outreach and promoting the protection and conservation of both natural and cultural resources under its stewardship. This integrated approach to stewardship has improved the effectiveness of TVA's resource protection efforts as traditional silos between resource areas have been dissolved. Archaeological sites on TVA public lands have been vulnerable to vandalism and looting since TVA was established in 1933. Greater awareness of their sensitivity and uniqueness and the need for protection will improve

the overall culture both within TVA and beyond as noncultural resource staff establish a sense of ownership and protection for these resources.

The decision to develop a comprehensive database has delayed progress on TVA's Cultural Resource Management Plan. However, development of this database will lay the foundation for the plan's success. It will greatly improve the efficiency and effectiveness of historic property management, improve the reporting of that effort to external agencies and establish a baseline for setting sustainable long-term goals for future protection of these resources. It is anticipated that the CRMP will be completed by the next Section 3 Progress Report in 2017.

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