

**Document Type:** EA-Administrative Record  
**Index Field:** Environmental Document  
**Project Name:** Watts Bar Reservoir WBR-82 (Iron Hill  
Island) Bank Stabilization  
Project Number: 2018-18

**WATTS BAR RESERVOIR WBR-82 (IRON HILL ISLAND) BANK  
STABILIZATION PROJECT  
ENVIRONMENTAL ASSESSMENT AND  
FINDING OF NO SIGNIFICANT IMPACT**

**Rhea County, Tennessee**

**Prepared by:**  
TENNESSEE VALLEY AUTHORITY

June 2018

To request further information, contact:  
W. Douglas White  
NEPA Compliance  
Tennessee Valley Authority  
400. W Summit Hill Drive  
Knoxville, TN 37902  
Phone: 865-632-2252  
E-mail: [wdwhite0@tva.gov](mailto:wdwhite0@tva.gov)

This page intentionally left blank.

### **Purpose and Need for Action**

TVA is proposing to place rock riprap along a section of shoreline of TVA Tract WBR-82 (Iron Hill Island) on Watts Bar Reservoir in order to address severe erosion and undercutting of the shoreline. Approximately a 480 linear foot section of shoreline would be stabilized with rock riprap.

TVA is responsible for the management of public shoreline on Watts Bar Reservoir and for the protection of shoreline and aquatic resources, while providing reasonable public access. The proposal is intended to minimize the destabilization and erosion of the shoreline and banks of the island and the resultant turbidity and sedimentation of reservoir waters. Erosion of the shoreline is increasing, primarily due to the increasing presence of boats producing higher wakes on the reservoir. The proposal supports and is consistent with TVA's mission of environmental stewardship, the objectives for water resource management in the 2011 Natural Resources Plan (NRP), and TVA's management goals set forth in the 2009 TVA Watts Bar Reservoir Land Management Plan (RLMP). TVA conducted a previous environmental review of a stabilization project for an adjacent section of Iron Hill Island shoreline and issued Finding of No Significant Impact on March 31, 2016.

### **Proposed Action**

The proposed stabilization project would consist of placing rock riprap along approximately 480 linear feet of the shoreline of Iron Hill Island, which is located on Watts Bar Reservoir, Tennessee River mile 539 (right bank), Rhea County, Tennessee. Delivery and placement of the riprap would be conducted by barge. The project location map is included in Attachment 1. Photographs of the area below the shoreline depict nearly vertical cutbanks ranging from 5 to 30 feet in height, and the banks of the island are covered with limited grass, forbs, and brush vegetation. Photographs are included in Attachment 2.

Rock riprap of sufficient size (generally 15 to 20 inches in diameter) to prevent washout would be placed on the shoreline such that the bottom of the riprap would be approximately 6 feet below and the top would be 3 feet above the normal summer operating level (741 feet mean sea level). Where there is deep undercutting, minor reshaping of the bank may occur to produce a gentler slope. Where practical, filter fabric would be laid under the entire length of riprap and anchored to the ground; anchors would be placed slightly above the riprap on the bank. A site investigation conducted in August 2017 indicated that no tree removal would be required for this project. Additional detail of project plans is provided in Attachment 3. TVA proposes to conduct the work in the fall of 2018 and estimates that the work would be completed in less than one month. In the future, the riprap installation may periodically require routine, minor maintenance (i.e., the addition of rock riprap at locations where sloughing has occurred).

TVA is also considering taking no action (i.e., not placing riprap along the Iron Hill Island to stabilize the streamline erosion issues). Taking no action would not address these resource condition issues nor would it help TVA achieve its goals and objectives for managing the public shoreline. If TVA does not take action, the shoreline of Iron Hill Island would continue eroding and the undercutting and sloughing of banks would likely worsen. Erosion of the shoreline would continue to increase water turbidity and banks that are currently vertical or near vertical may be heightened by continued erosion, making access to the island more difficult for recreationists. TVA also considered other stabilization methods (e.g. vegetation and bioengineering), but dismissed them from further consideration because the success of those methods in addressing critical erosion of such high banks is limited.

## **Environmental Impacts**

TVA has reviewed the proposed project and documented potential environmental impacts related to the project in the attached Environmental Review Checklist 37312 (Attachment 4). The Checklist identifies the resources present in the project area and documents TVA's determination that the proposal would not significantly affect these resources.

**Threatened and Endangered Species:** As documented in the Checklist, the proposal would have no effect on endangered, threatened, or special status plant, aquatic, or wildlife species. A review of the TVA Natural Heritage database did not result in records for any terrestrial state-listed species but did find one federally protected species (bald eagle) and one federally endangered species (gray bat) within three miles of the project footprint (Attachment 5). One federally listed species (northern long-eared bat) is known from Rhea County, Tennessee, approximately fifteen miles away. One additional federally listed species (Indiana bat) is believed to have the potential to occur in Rhea County, Tennessee, and therefore was also assessed.

The potential impacts to the roosting habitat of these species is associated with the removal of trees and/or the presence of caves in the project area. As noted above, no tree removal would occur as a result of the proposed activities. Six caves are known from within three miles of the project area, the nearest of these caves occurs approximately 1.2 miles from the project footprint. Therefore, the roosting habitat of these species would not be impacted by the proposed activities. Suitable foraging habitat occurs for the bald eagle, gray bat, Indiana bat, and northern long-eared bat over Watts Bar Lake and over and around forested habitat in the project area. However, best management practices would be implemented to minimize impacts to water bodies within the project footprint and tree removal is not required in connection with the proposed project. In addition, the proposed actions to stabilize the shoreline are expected to reduce sedimentation at the site and thereby somewhat improve foraging habitat. Therefore, there would be no effect to federally listed bat species nor the federally protected bald eagle.

The review of the TVA Natural Heritage Database indicated records of 10 state and/or federally listed aquatic species within 10 miles of the proposed project, including 4 fishes and 6 mussels (Attachment 5). Most of the records are located downstream of Watts Bar Dam, well outside the project area, including the only extant populations included on the list (pink mucket and sheepsnose mussels). Therefore, no state or federally listed aquatic species would be affected by the project.

**Cultural Resources:** A review of the National Register of Historic Places (NRHP) and the Tennessee Historical Commission Viewer (TNHCV) indicates that no historic properties exist within the area of potential effects (APE) or within its viewshed. Photographs of the APE at the shoreline depict a steep, high cut bank that is in continuous erosion/failure due to constant wave action and the absence of vegetation. Photographs of the APE above the shoreline depict a steep hillside slope. TVA performed a previous archaeological survey of the Watts Bar Reservoir shoreline in 2000 (Ahlman et al 2000). The exposed shoreline was subjected to a walkover survey and back-lying property was subjected to systematic shovel testing along this portion of the reservoir and there were cultural resources identified at this location. TVA Cultural Compliance staff conducted a revisit of the site on January 29, 2017 and determined that no potential impacts to cultural resources would occur by the proposed undertaking. Given the terrain characteristics, results of the survey, and absence of NRHP and TNHCV sites, TVA concludes that the proposed action would have no effect on historic properties. TVA has conducted a consultation with the Tennessee State Historic Preservation Office (SHPO) and

Federally recognized tribes about the proposed undertaking and received concurrence on the undertaking (Attachment 6).

Wetlands: A review of the National Wetland Inventory database indicates that there are no wetlands at the location and therefore would be no impact to wetlands.

Natural Areas: The parcel is not located within or adjacent to a wildlife management, park, scenic, or heritage site. There are three managed areas located within the vicinity, however, due to the nature and location of the proposed actions, these sites would not be affected.

Visual Impacts: Because there are few riprap installations in this area of the reservoir, the riprap around Iron Hill Island may noticeably contrast with the natural appearance of shorelines within view of the island. However, these visual impacts would be minor and would lessen over time as the riprap weathers.

Erosion: During construction, some soil erosion may occur or dredged or fill materials may be discharged and minor and temporary impacts may occur to riparian vegetation along the shoreline as the riprap is placed. However, TVA would implement standard measures and apply best management practices in implementing the project in order to minimize or mitigate potential impacts of the project.

Recreation: Riprap along the island's shoreline may affect accessibility to the island by boaters as some may be unwilling to approach riprap. However, in most places on the island, there will be additional shoreline that will provide access to the island for boaters without requiring them to traverse much riprap.

Floodplains: Because of the nature of the stabilization project, there is no practicable alternative that would avoid siting riprap in the floodplain. Although the 100-year floodplain may be affected, the stabilization structure falls under the guidelines of TVA's class review of repetitive actions within the 100-year floodplain.

Navigation: TVA has noted this site work will take place around Euchee Light and Daymark (TRM 539.4) which is maintained by the United States Coast Guard. In order to ensure no significant impacts to navigation, TVA would provide proper notification to United States Coast Guard and the USACE Navigation Branch before starting work.

Cumulative Effects: The proposal is limited in scope and designed to improve degraded conditions along shoreline in this area of Watts Bar Reservoir. The potential adverse impacts of the project, when added to adverse impacts from other activities within the immediate area, would be insignificant. TVA regularly considers shoreline stabilization projects in Watts Bar reservoir. TVA also regularly considers proposals by property owners on the reservoir for minor structures or docks which may include the installation of riprap to stabilize the shoreline along the property. Cumulatively, these stabilization projects would change the character of small portions of the reservoir's shoreline but would have beneficial overall impacts – though very diffuse in reach – because of decreased erosion and water turbidity and improved recreational access. The cumulative impacts associated with these stabilization projects have also been described in the environmental reviews of the NRP and RLMP.

### **Necessary Permits**

In addition to the necessary approvals from TVA, the following permits would be required for implementation of the proposed action:

- Aquatic Resource Alteration Permit/Water Quality Certification from the Tennessee Department of Environment and Conservation pursuant to Section 401(a)(1) of the Clean Water Act for proposed bank stabilization.
- USACE Permit(s) pursuant to Section 404 of the Clean Water Act for the discharge of fill material into the waters of the United States.
- Required notifications to USACE, Nashville District, Navigation Branch and United States Coast Guard.

### **Conclusion and Finding**

Based on the findings above and the analyses in the attached checklist, we conclude that the proposed action to apply riprap stabilization to 480 feet of shoreline on Watts Bar Reservoir at the Tract WBR-82 Iron Hill Island location would not be considered a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



06/06/18

---

Susan R Jacks, Senior Manager  
NEPA Program and Valley Projects  
Tennessee Valley Authority

---

Date Signed

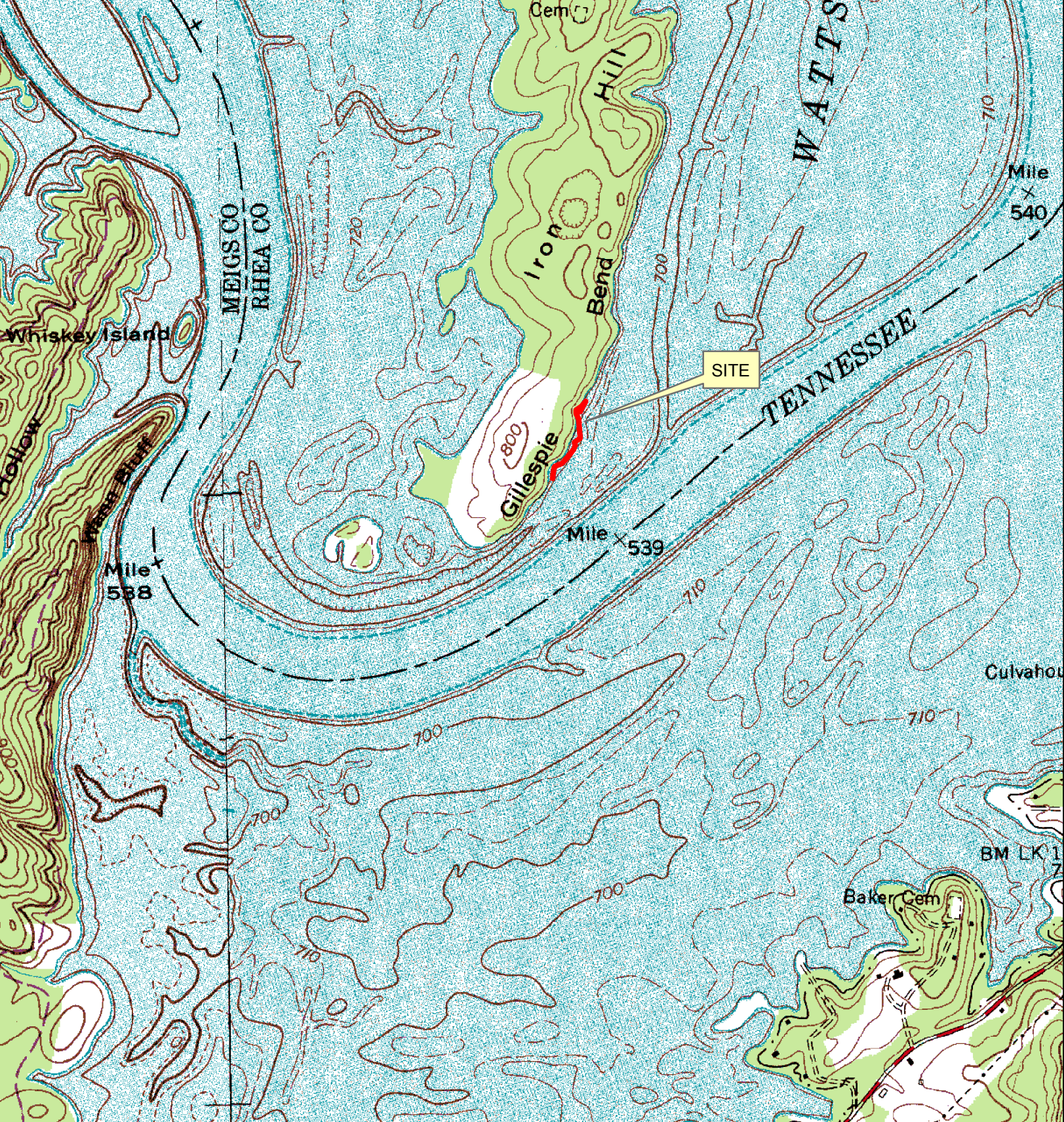
**TVA Preparers**

Kelvin Young – Heritage Review and Watershed Specialist  
Freddie Bennett –Watershed Specialist  
Marianne Shuler – Archaeologist  
William White – NEPA Specialist  
Travis Giles - Program Manager

**List of Attachments**

Attachment 1 - Project Map  
Attachment 2 - Site Photographs  
Attachment 3 - Project Plans  
Attachment 4 - Environmental Review Checklist 37312  
Attachment 5 - TVA Natural Heritage Database Query  
Attachment 6 - Consultation

Attachment 1 – Project Map



# TENNESSEE VALLEY AUTHORITY

Shoreline Bank Stabilization - 480 linear feet

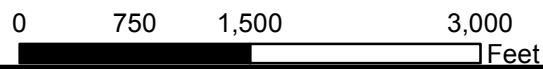
Tennessee River Mile 539R - Iron Hil Island

Acquisition Tract: WBR-82; (Planned Parcel 254)

C/D Stage Map Sheet 15-D; Quad Map 124NW (Ten Mile)

GPS Coordinates: Lat 35.684445; Lon -84.738334

Chickamauga Reservoir, Rhea County, TN

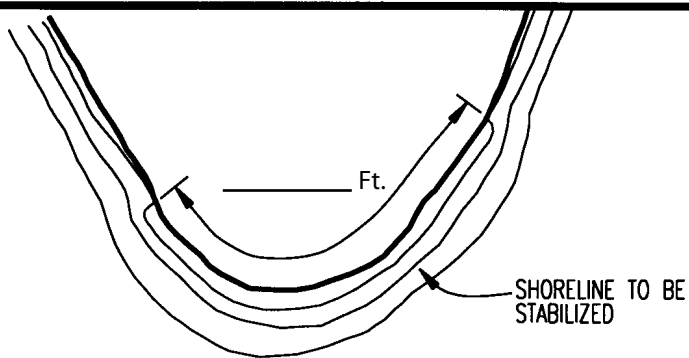


Attachment 2 – Site Photos

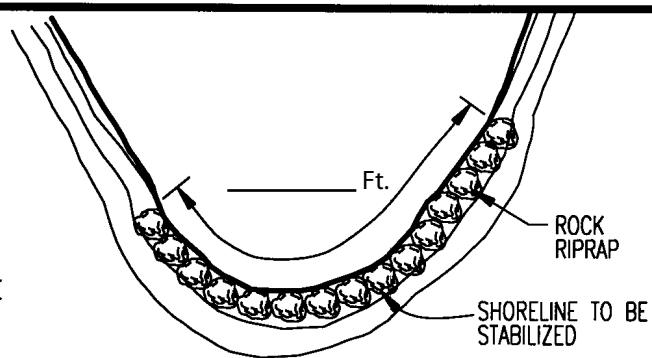




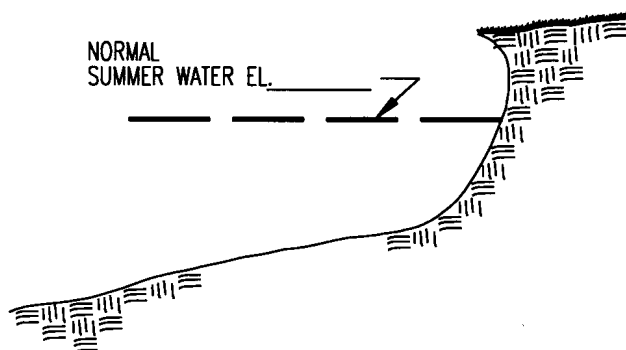
Attachment 3 – Project Plans



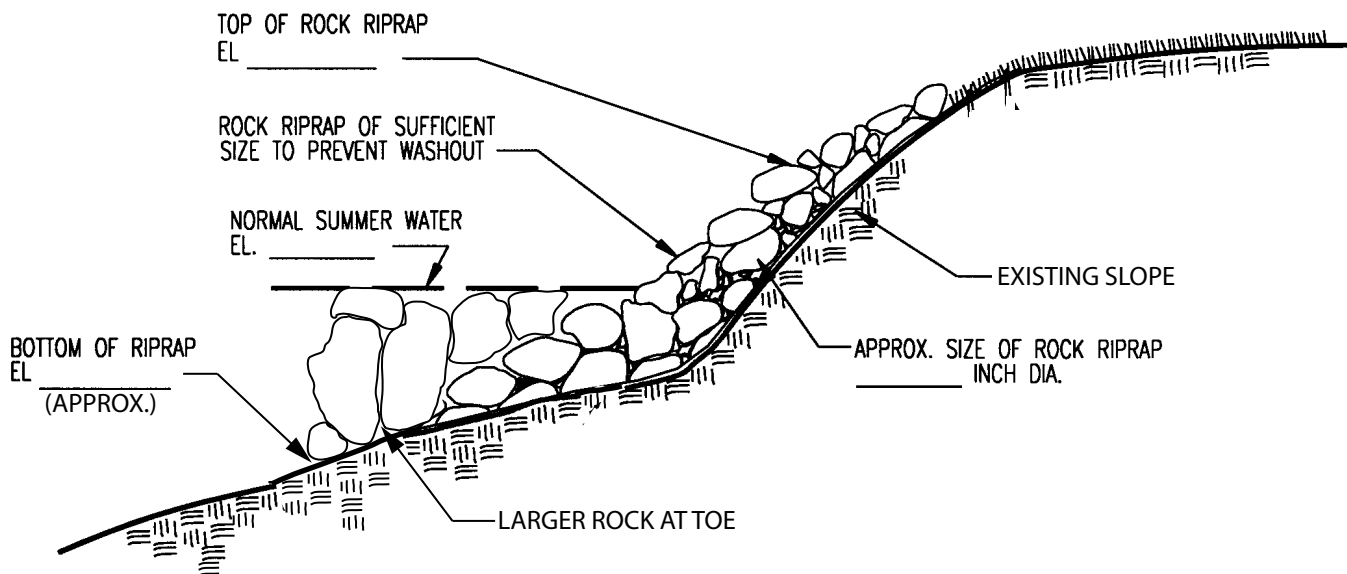
**PLAN SHOWING  
EXISTING SHORELINE**



**PLAN SHOWING  
STABILIZED SHORELINE**



**SECTION SHOWING EXISTING SHORELINE**



**SECTION SHOWING STABILIZED SHORELINE**

**NOTE:**  
INCLUDE ALL DIMENSIONS AND ELEVATIONS  
WHERE INDICATED.



RESERVOIR NAME: \_\_\_\_\_

**TYPICAL SHORELINE ROCK RIPRAP**

PROJECT LOCATION INFORMATION:

STREAM NAME \_\_\_\_\_ SUBDIVISION NAME \_\_\_\_\_

RESERVOIR NAME \_\_\_\_\_ LOT NUMBER \_\_\_\_\_

MILE MARKER \_\_\_\_\_ MAP NO. \_\_\_\_\_

( APPLICANT'S NAME )

Attachment 4 - Environmental Review Checklist CEC 37312

## Categorical Exclusion Checklist for Proposed TVA Actions

Categorical Exclusion Number Claimed	Organization ID Number NRM Task ID 286045	Tracking Number <i>(NEPA Administration Use Only)</i> 37312
Form Preparer Freddie C Bennett	Project Initiator/Manager W S Ledford	Business Unit P&NR - Reservoir Property & Resource Mgmt
Project Title SHORELINE STABILIZATION IRON HILL ISLAND - WATTS BAR RESERVOIR		Hydrologic Unit Code
Description of Proposed Action <i>(Include Anticipated Dates of Implementation)</i> For Proposed Action See Attachments and References		<input type="checkbox"/> Continued on Page 3 <i>(if more than one line)</i>
Initiating TVA Facility or Office		TVA Business Units Involved in Project
Location <i>(City, County, State)</i> For Project Location see Attachments and References		

Parts 1 through 4 verify that there are no extraordinary circumstances associated with this action:

### Part 1. Project Characteristics

Is there evidence that the proposed action...	No	Yes	Commitment	Information Source for Insignificance
1.Is major in scope?	X			Bennett, Freddie C. 08/14/2017
2.Is part of a larger project proposal involving other TVA actions or other federal agencies?	X			Bennett, Freddie C. 08/14/2017
* 3.Involves non-routine mitigation to avoid adverse impacts ?	X		No	Bennett, Freddie C. 08/14/2017
4.Is opposed by another federal, state, or local government agency?	X			Bennett, Freddie C. 08/14/2017
* 5.Has environmental effects which are controversial?	X			Bennett, Freddie C. 08/14/2017
* 6.Is one of many actions that will affect the same resources?	X			Bennett, Freddie C. 08/14/2017
7.Involves more than minor amount of land?	X			Bennett, Freddie C. 08/14/2017

\*If "yes" is marked for any of the above boxes, consult with NEPA Administration on the suitability of this project for a categorical exclusion.

## Part 2. Natural and Cultural Features Affected

Would the proposed action...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Potentially affect endangered, threatened, or special status species?		X	No	No	For comments see attachments
2.Potentially affect historic structures, historic sites, Native American religious or cultural properties, or archaeological sites?		X	No	No	For comments see attachments
3.Potentially take prime or unique farmland out of production?	X		No	No	Bennett, Freddie C. 08/14/2017
4.Potentially affect Wild and Scenic Rivers or their tributaries?	X		No	No	Bennett, Freddie C. 08/14/2017
5.Potentially affect a stream on the Nationwide Rivers Inventory?	X		No	No	Bennett, Freddie C. 08/14/2017
6.Potentially affect wetlands?	X		No	No	For comments see attachments
7.Potentially affect water flow, stream banks or stream channels?		X	No	No	For comments see attachments
8.Potentially affect the 100-year floodplain?		X	No	No	For comments see attachments
9.Potentially affect ecologically critical areas, federal, state, or local park lands, national or state forests, wilderness areas, scenic areas, wildlife management areas, recreational areas, greenways, or trails?	X		No	No	For comments see attachments
10.Contribute to the spread of exotic or invasive species?	X		No	No	For comments see attachments
11.Potentially affect migratory bird populations?	X		No	No	For comments see attachments
12.Involve water withdrawal of a magnitude that may affect aquatic life or involve interbasin transfer of water?	X		No	No	Bennett, Freddie C. 08/14/2017
13.Potentially affect surface water?	X		No	No	Bennett, Freddie C. 02/21/2018
14.Potentially affect drinking water supply?	X		No	No	Bennett, Freddie C. 08/14/2017
15.Potentially affect groundwater?	X		No	No	Bennett, Freddie C. 08/14/2017
16.Potentially affect unique or important terrestrial habitat?	X		No	No	For comments see attachments
17.Potentially affect unique or important aquatic habitat?		X	No	No	For comments see attachments

## Part 3. Potential Pollutant Generation

Would the proposed action potentially (including accidental or unplanned)...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Release air pollutants?	X		No	No	Bennett, Freddie C. 08/14/2017
2.Generate water pollutants?	X		No	No	Bennett, Freddie C. 08/14/2017
3.Generate wastewater streams?	X		No	No	Bennett, Freddie C. 08/14/2017
4.Cause soil erosion?		X	No	No	For comments see attachments
5.Discharge dredged or fill materials?		X	Yes	No	For comments see attachments
6.Generate large amounts of solid waste or waste not ordinarily generated?	X		No	No	Bennett, Freddie C. 08/14/2017
7.Generate or release hazardous waste (RCRA)?	X		No	No	Bennett, Freddie C. 08/14/2017
8.Generate or release universal or special waste, or used oil?	X		No	No	Bennett, Freddie C. 02/21/2018
9.Generate or release toxic substances (CERCLA, TSCA)?	X		No	No	Bennett, Freddie C. 08/14/2017
10.Involve materials such as PCBs, solvents, asbestos, sandblasting material, mercury, lead, or paints?	X		No	No	Bennett, Freddie C. 08/14/2017
11.Involve disturbance of pre-existing contamination?	X		No	No	Bennett, Freddie C. 08/14/2017
12.Generate noise levels with off-site impacts?	X		No	No	Bennett, Freddie C. 08/14/2017
13.Generate odor with off-site impacts?	X		No	No	Bennett, Freddie C. 08/14/2017
14.Produce light which causes disturbance?	X		No	No	Bennett, Freddie C. 08/14/2017
15.Release of radioactive materials?	X		No	No	Bennett, Freddie C. 08/14/2017
16.Involve underground or above-ground storage tanks or bulk storage?	X		No	No	Bennett, Freddie C. 08/14/2017
17.Involve materials that require special handling?	X		No	No	Bennett, Freddie C. 08/14/2017

**Part 4. Social and Economic Effects**

Would the proposed action...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Potentially cause public health effects?	X			No	Bennett, Freddie C. 08/14/2017
2.Increase the potential for accidents affecting the public?	X			No	Bennett, Freddie C. 08/14/2017
3.Cause the displacement or relocation of businesses, residences, cemeteries, or farms?	X			No	Bennett, Freddie C. 08/14/2017
4.Contrast with existing land use, or potentially affect resources described as unique or significant in a federal, state, or local plan?	X			No	Bennett, Freddie C. 08/14/2017
5.Disproportionately affect minority or low-income populations?	X			No	Bennett, Freddie C. 08/14/2017
6.Involve genetically engineered organisms or materials?	X			No	Bennett, Freddie C. 08/14/2017
7.Produce visual contrast or visual discord?	X			No	Bennett, Freddie C. 08/14/2017
8.Potentially interfere with recreational or educational uses?	X			No	Bennett, Freddie C. 02/21/2018
9.Potentially interfere with river or other navigation?		X	No	No	For comments see attachments
10.Potentially generate highway or railroad traffic problems?	X			No	Bennett, Freddie C. 08/14/2017

**Part 5. Other Environmental Compliance/Reporting Issues**

Would the proposed action...	No	Yes	Commitment	Information Source for Insignificance
1.Release or otherwise use substances on the Toxic Release Inventory list?	X		No	Bennett, Freddie C. 08/14/2017
2.Involve a structure taller than 200 feet above ground level?	X		No	Bennett, Freddie C. 08/14/2017
3.Involve site-specific chemical traffic control?	X		No	Bennett, Freddie C. 08/14/2017
4.Require a site-specific emergency notification process?	X		No	Bennett, Freddie C. 08/14/2017
5.Cause a modification to an existing environmental permit or to existing equipment with an environmental permit or involve the installation of new equipment/systems that will require a permit?	X		No	Bennett, Freddie C. 08/14/2017
6.Potentially impact operation of the river system or require special water elevations or flow conditions??	X		No	Bennett, Freddie C. 08/14/2017
7.Involve construction or lease of a new building or demolition or renovation of existing building (i.e. major changes to lighting, HVAC, and/or structural elements of building of 1000 sq. ft. or more)?	X		No	Bennett, Freddie C. 08/14/2017

Parts 1 through 4: If "yes" is checked, describe in the discussion section following this form why the effect is insignificant. Attach any conditions or commitments which will ensure insignificant impacts. Use of non-routine commitments to avoid significance is an indication that consultation with NEPA Administration is needed.

An ☒ EA or ☐ EIS Will be prepared.

Based upon my review of environmental impacts, the discussion attached, and/or consultations with NEPA Administration, I have determined that the above action does not have a significant impact on the quality of the human environment and that no extraordinary circumstances exist. Therefore, this proposal qualifies for a categorical exclusion under Section 5.2. \_\_\_\_\_ of TVA NEPA Procedures.

Project Initiator/Manager W S Ledford	Date 02/26/2018
TVA Organization RSO&E	E-mail wsledfor@tva.gov
	Telephone

**Environmental Concurrence Reviewer**

Travis Adam Giles 03/08/2018  
\_\_\_\_\_  
Signature

**Preparer Closure**

Freddie C Bennett 03/08/18  
\_\_\_\_\_  
Signature

**Other Environmental Concurrence Signatures (as required by your organization)**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

Signature

Signature

**Other Review Signatures** (as required by your organization)

Freddie C Bennett 02/21/2018

Signature

Signature

Signature

Signature

Signature

Signature

**Attachments/References**

Description of Proposed Action Continued from Page 1

TVA is proposing to stabilize 480 feet of eroding shoreline using rock riprap on Watts Bar Reservoir tract WBR-82 (Iron Hill Island). Riprap fill will be a blended mix of Class III (at least 50% by weight shall be stones weighing 160 LB +/-, 13"+/- diameter) and Class VIII (at least 50% by weight shall be stones weighing 2,000 LB +/-, 25"+/- diameter) at the toe of riprap. Filter fabric will be applied where practical and the rock will be placed by barge. Reviewers' comments will be used in preparation of an abbreviated EA as this proposed action does not qualify as a Categorical Exclusion under our current environmental procedures for permitting TVA projects. NOTE: 490 linear feet of eroding shoreline was stabilized on the south end of the island within the past year –CEC 33118 closed March 2016 - Abbreviated EA and FONSI completed March 2016.

Project Location Continued from Page 1

RHEA, TN, Watts Bars Reservoir - TRM 539 - GPS coordinates: N35.684445: W-84.738334 - C/D Stage Map Sheet 15D - Quad Sheet 124NW (Ten Mile) - Rhea County, TN

CEC General Comment Listing

1. NO COMMENT TEXT  
By: 26a Added Comment
2. NO COMMENT TEXT  
By: 26a Added Comment
3. NO COMMENT TEXT  
By: 26a Added Comment
4. NO COMMENT TEXT  
By: 26a Added Comment
5. NO COMMENT TEXT  
By: 26a Added Comment
6. NO COMMENT TEXT  
By: 26a Added Comment

CEC Comment Listing

Part 2 Comments

1. Please see attached Terrestrial Zoology input.  
By: Elizabeth B Hamrick 08/31/2017  
Files: CEC37312\_Part2Que1\_TerrZoo\_Inputdocx.docx 08/31/2017 18.70 Bytes
1. Review of the TVA Natural Heritage Database indicated records of 10 state and/or federally listed aquatic species within 10 miles of the proposed project near Tennessee R. mile 539, including 4 fishes and 6 mussels (Aquatics Table 1). Most of the records are located downstream of Watts Bar Dam, well outside the project action area, including the only extant populations included on the list (pink mucket and sheepsnose mussels). Therefore, no state or federally listed aquatic species would be affected by the project.  
By: Charles S Howard 12/19/2017  
Files: CEC 37312\_AQ\_TAB1.docx 12/19/2017 20.91 Bytes
2. TN SHPO Letter  
By: Marianne M Shuler 02/21/2018  
Files: TVA\_Iron Hill Island Stabilization\_Rhea County 02/21/2018 1,636.94 Bytes  
TN\_SHPO\_CID70542\_11JAN2018.pdf

2.	TN SHPO response		
	By: Marianne M Shuler	02/21/2018	
	Files: TVA_Iron Hill Island Stabilization_Rhea Co_Response 25Jan2018.pdf	02/21/2018	223.20 Bytes
2.	Absentee Shawnee Response		
	By: Marianne M Shuler	02/21/2018	
	Files: Absentee Shawnee Response.pdf	02/21/2018	54.98 Bytes
2.	ECBI response		
	By: Marianne M Shuler	02/21/2018	
	Files: ECBI Response.pdf	02/21/2018	91.67 Bytes
2.	TVA finds the undertaking will have no effect to historic properties (see attached) "CEC37312_RLR286045_70542_section106.pdf" for supporting documentation.		
	By: Marianne M Shuler	02/21/2018	
	Files: CEC37312_RLR286045_70542_Section106.pdf	02/21/2018	10.06 Bytes
2.	THPO letter		
	By: Marianne M Shuler	02/21/2018	
	Files: TVA_Iron Hill Island Stabilization_Rhea County TN_THPO_CID70542_11JAN2018.pdf	02/21/2018	1,639.06 Bytes
2.	Eastern Shawnee Response		
	By: Marianne M Shuler	02/21/2018	
	Files: Eastern Shawnee Response.pdf	02/21/2018	78.39 Bytes
2.	Shawnee Tribe response		
	By: Marianne M Shuler	02/21/2018	
	Files: Shawnee Tribe.pdf	02/21/2018	80.58 Bytes
8.	Cleared by criteria: In accordance with TVA's previous review of certain repetitive actions in the 100-year floodplain which was determined there were no practicable alternative that would avoid siting in the floodplain, the stabilization project is expected to have insignificant potential effects.		
	By: Freddie C Bennett	08/14/2017	
9.	There are three Managed areas (MABR) and no Heritage Sites (SBR) located in the vicinity. However, due to the nature and location of the proposed actions these sites will not be affected.		
	By: Kelvin Young	10/02/2017	
10.	Based on review of the actions, site location information, and maps, the proposed project would not contribute to the spread of exotic or invasive terrestrial animal species.		
	By: Elizabeth B Hamrick	08/31/2017	
10.	Since the project equipment and materials should be free of debris that could transfer exotic species, and no water or species would be intentionally transferred, the project will not contribute to the spread of exotic or invasive aquatic species.		
	By: Charles S Howard	12/19/2017	
11.	There are two known wading bird colonies within three miles of the project footprint, the nearest of which occurs approximately 1.5 miles from the action area but would not be impacted by the proposed actions. The USFWS lists 16 species of migratory birds of conservation concern in this region. Of these, habitat for blue-winged warbler, Kentucky warbler, Louisiana waterthrush, prairie warbler, prothonotary warbler, willow flycatcher, wood thrush, and worm eating warbler occurs within the proposed action area. However no tree removal would occur in association with the proposed actions. In addition, an abundance of similarly suitable forested habitat occurs on the surrounding landscape. Proposed actions are not expected to impact populations of migratory birds.		
	By: Elizabeth B Hamrick	08/31/2017	
16.	Six caves are known within three miles of the project footprint, the nearest of which occurs approximately 1.2 miles from the project footprint but would not be impacted by the proposed actions. No additional unique or important terrestrial habitats are known from the project footprint. Proposed project activities would not affect unique or important terrestrial habitats.		
	By: Elizabeth B Hamrick	08/31/2017	
17.	Although records of state and federally listed aquatic species occurs within ten miles of the project, no extant populations are supported upstream of Watts Bar Dam. Therefore, no unique or important aquatic habitat would be affected by the project.		
	By: Charles S Howard	12/19/2017	
6.	No wetlands occur at the site and will not be impacted.		
	By: Kelvin Young	10/02/2017	
7.	There will be no negative effects on water flow or existing condition of the stream channel or stream bank. Rip-rap will be added to stabilize the shoreline. Rip-rap stabilization will reduce sedimentation and erosion.		
	By: Kelvin Young	10/02/2017	
Part 3 Comments			
4.	Rock riprap, placed on the stream banks, will be beneficial in controlling erosion which enhances water quality by reducing sedimentation. It has a positive impact on aquatic habitat since silt from erosion can cover the graveled bottom where fish spawn.		
	By: Freddie C Bennett	08/14/2017	
5.	The placement of rock riprap on the stream bank to control erosion will be installed in accordance with the General Standards and Conditions and Best Management Practices and is expected to have insignificant potential effects.		

By: Freddie C Bennett

08/14/2017

#### Part 4 Comments

9. please see attached navigation comments.

By: Nicole Berger

08/15/2017

Files: 286045wbr - 26a - Tennessee River Mile 539R - TVA.docx 08/15/2017

16.55 Bytes

#### CEC Permit Listing

##### Part 3 Permits

5. Section 404 Permit (ç404 Clean Water Act)

By: Freddie C Bennett

08/14/2017

5. State Water Quality Certification (ç401 Clean Water Act)

By: Freddie C Bennett

08/14/2017

#### CEC Commitment Listing

Attachment 5 – TVA Natural Heritage Database Query

**Table 1. Records of federal and state-listed aquatic animal species within ten miles of the proposed project at Iron Hill Island (TRM 539; TVA CEC 37312).<sup>1</sup>**

Common Name	Scientific Name	Element Rank <sup>2</sup>	Federal Status <sup>3</sup>	State Status <sup>3</sup>	State Rank <sup>4</sup>
<b>Fishes</b>					
Flame Chub	<i>Hemitremia flammea</i>	H		D	S3
Snail Darter	<i>Percina tanasi</i>	H?	THR	THR	S2S3
Spotfin Chub	<i>Erimonax monachus</i>	X?	THR	THR	S2
Tangerine Darter	<i>Percina aurantiaca</i>	H?		D	S3
<b>Mussels</b>					
Dromedary Pearlymussel	<i>Dromus dromas</i>	X	END	END	S1
Fanshell	<i>Cyprogenia stegaria</i>	H?	END	END	S1
Pink Mucket	<i>Lampsilis abrupta</i>	E	END	END	S2
Pyramid Pigtoe	<i>Pleurobema rubrum</i>	H?			S1S2
Rough Pigtoe	<i>Pleurobema plenum</i>	H?	END	END	S1
Sheepnose	<i>Plethobasus cyphus</i>	E	END		S2S3

<sup>1</sup> Source: TVA Natural Heritage Database, queried by C. Howard.

<sup>2</sup> Heritage Element (=population) Occurrence Rank; E = extant record ≤25 years old; H = historical record >25 years old; X = considered extirpated; ? = uncertain status

<sup>3</sup> Status Codes: CAND = Candidate for federal listing; D = Deemed In Need of Management; END = endangered; EXTI = Extirpated from state or region; PROP = Proposed; PROT = Protected; PSM = Protected Status for Mussels (equivalent to TRKD); SP = State Protected; THR = Threatened; TRKD = Tracked by state natural heritage program (no legal status)

<sup>4</sup> State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; SX = Extirpated from the state; ? = uncertain status

**Table 2. Federally listed terrestrial animal species reported from Rhea County, Tennessee and other species of conservation concern documented within three miles of CEC #37312, Shoreline Stabilization Iron Hill Island - Watts Bar Reservoir<sup>1</sup>**

Common Name	Scientific Name	Status <sup>2</sup>	
		Federal	State (Rank <sup>3</sup> )
<b>Birds</b>			
Bald eagle	<i>Haliaeetus leucocephalus</i>	DM	D(S3)
<b>Mammals</b>			
Gray bat	<i>Myotis grisescens</i>	LE	E(S2)
Indiana bat	<i>Myotis sodalis</i>	LE	E(S1)
Northern long-eared bat	<i>Myotis septentrionalis</i>	LT	--(S1S2)

<sup>1</sup> Source: TVA Regional Natural Heritage Database, extracted 8/23/2017; USFWS Information for Planning and Conservation (IPaC) resource list (<https://ecos.fws.gov/ipac/>), accessed 8/25/2017.

<sup>2</sup> Status Codes: D = Deemed in Need of Management; DM = Delisted, Recovered, and Being Monitored; E or LE = Endangered; LT = Listed Threatened.

<sup>3</sup> State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Rare and Uncommon.

Attachment 6 – Consultation



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

January 11, 2018

Mr. E. Patrick McIntyre, Jr.  
Executive Director  
Tennessee Historical Commission  
2941 Lebanon Pike  
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

**TENNESSEE VALLEY AUTHORITY (TVA) 480 FEET OF SHORELINE STABILIZATION AT  
IRON HILL ISLAND, WATTS BAR RESERVOIR, TENNESSEE RM 539 – 539.1R, RHEA  
COUNTY, TENNESSEE**

TVA is proposing to stabilize the eroding shoreline with 480 feet of riprap at Iron Hill Island on Watts Bar Reservoir at Tennessee RM 539 – 539.1R (35.6847294°, -84.7382457°) (Figure 1). Site 40RH42, a potentially eligible site, is at this location. The proposed undertaking will consist of placing Class I (12-24 inch diameter) riprap with geotextile fabric where needed along the eroding shoreline by barge. In areas where deep under-cutting has occurred, reshaping will be necessary (Figure 2). In addition, some trees will be removed to accommodate the placement of the riprap (Figure 3).

TVA performed a survey of Watts Bar Reservoir (Ahlman et al 2000), in which 40RH42 was revisited. During the revisit, extensive shovel testing was conducted in the area of the mounds on the southern tip of the island, however no intact deposits were identified at these locations. A possible village/midden area was identified near the southwest portion of the island, away from the existing mounds and proposed undertaking.

TVA Cultural Compliance staff (Pritchard and Creswell) visited 40RH42 on January 29, 2017 to assess if any potential impact would occur by the proposed undertaking. Based on the mounds' distance from the shoreline, along with the results of Ahlman's survey, TVA is seeking your concurrence with our finding that the proposed undertaking would have no effect to archaeological site 40RH42, since there are no archaeological deposits located along the cut bank.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with federally recognized Indian tribes regarding historic properties within the APE that may be of religious and cultural significance and eligible for listing in the NRHP.

Mr. E. Patrick McIntyre, Jr.  
Page 2  
January 11, 2018

Should you have any questions or comments, please contact Marianne Shuler by telephone, (865) 632-2464 or by email, [mmshuler@tva.gov](mailto:mmshuler@tva.gov).

Sincerely,



Clinton E. Jones  
Manager  
Cultural Compliance

BAC:ABM

Enclosures

cc (Enclosures):

Ms. Jennifer Barnett  
Tennessee Division of Archaeology  
1216 Foster Avenue, Cole Bldg. #3  
Nashville, Tennessee 37210

#### **References Cited**

Ahlman, Todd M., Susan R. Frankenberg, and Nicholas P. Herrmann  
2000 *Archaeological Reconnaissance Survey of Tennessee Valley Authority Lands on the Watts Bar Reservoir*. Submitted by The University of Tennessee Department of Anthropology to Tennessee Valley Authority.



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

January 11, 2018

To Those Listed:

**TENNESSEE VALLEY AUTHORITY (TVA) 480 FEET OF SHORELINE STABILIZATION AT IRON HILL ISLAND, WATTS BAR RESERVOIR, TENNESSEE RM 539 – 539.1R, RHEA COUNTY, TENNESSEE**

TVA is proposing to stabilize the eroding shoreline with 480 feet of riprap at Iron Hill Island on Watts Bar Reservoir at Tennessee RM 539 – 539.1R (35.6847294°, -84.7382457°) (Figure 1). Site 40RH42, a potentially eligible site, is at this location. The proposed undertaking will consist of placing Class I (12-24 inch diameter) riprap with geotextile fabric where needed along the eroding shoreline by barge. In areas where deep under-cutting has occurred, reshaping will be necessary (Figure 2). In addition, some trees will be removed to accommodate the placement of the riprap (Figure 3).

TVA performed a survey of Watts Bar Reservoir (Ahlman et al 2000), in which 40RH42 was revisited. During the revisit extensive shovel testing was conducted in the area of the mounds on the southern tip of the island, however no intact deposits were identified at these locations. A possible village/midden area was identified near the southwest portion of the island, away from the existing mounds and proposed undertaking.

TVA Cultural Compliance staff (Pritchard and Creswell) visited 40RH42 on January 29, 2017 to assess if any potential impact would occur by the proposed undertaking. Based on the mounds' distance from the shoreline, along with the results of Ahlman's survey, TVA is seeking your concurrence with our finding that the proposed undertaking would have no effect to archaeological site 40RH42, since there are no archaeological deposits located along the cut bank.

Pursuant to 36 C.F.R. Part 800.3(f)(2), TVA is consulting with the following federally recognized Indian tribes regarding historic properties within the proposed project's APE that may be of religious and cultural significance and are eligible for the NRHP: Absentee Shawnee Tribe of Oklahoma, Alabama-Coushatta Tribe of Texas, Cherokee Nation, Coushatta Tribe of Louisiana, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Kialegee Tribal Town, Muscogee (Creek) Nation, Shawnee Tribe, Thlopthlocco Tribal Town, and the United Keetoowah Band of Cherokee Indians in Oklahoma.

Those Listed  
Page 2  
January 11, 2018

Please respond by February 10, 2018, if you have any comments on the proposed undertaking. If you have any questions, please contact me by phone, (865)632-6461 or by email, [pbezzell@tva.gov](mailto:pbezzell@tva.gov).

Sincerely,



Patricia Bernard Ezzell  
Tribal Relations and Corporate Historian  
Communications

BAC:ABM  
Enclosures  
cc (Enclosures):

**References Cited**

Ahlman, Todd M., Susan R. Frankenberg, and Nicholas P. Herrmann  
2000 *Archaeological Reconnaissance Survey of Tennessee Valley Authority Lands on the Watts Bar Reservoir*. Submitted by The University of Tennessee Department of Anthropology to Tennessee Valley Authority.

IDENTICAL LETTER MAILED TO THE FOLLOWING ON JANUARY 11, 2018:

Ms. Holly Austin (NHPA)  
Federal Cultural Resource Law Liaison  
Tribal Historic Preservation Office  
Eastern Band of Cherokee Indians  
Post Office Box 455  
Cherokee, North Carolina 28719

cc: Mr. Russell Townsend  
Tribal Historic Preservation Officer  
Eastern Band of Cherokee Indians  
Post Office Box 455  
Cherokee, North Carolina 28719

Mr. Brett Barnes  
Tribal Historic Preservation Officer  
Eastern Shawnee Tribe of Oklahoma  
127 West Oneida  
Seneca, Missouri 64865

Ms. RaeLynn Butler  
Manager  
Historic & Cultural Preservation Department  
Muscogee (Creek) Nation  
Post Office Box 580  
Okmulgee, Oklahoma 74447

cc: Ms. Corain Lowe-Zepeda  
Tribal Historic Preservation Officer  
Historic & Cultural Preservation Department  
Muscogee (Creek) Nation  
Post Office Box 580  
Okmulgee, Oklahoma 74447

Mr. Bryant Celestine  
Tribal Historic Preservation Officer  
Alabama-Coushatta Tribe of Texas  
571 State Park Road 56  
Livingston, Texas 77351

Mr. Terry Clouthier  
Thlopthlocco Tribal Town  
Tribal Historic Preservation Officer  
Post Office Box 188  
Okemah, Oklahoma 74859

Mr. David Cook  
Tribal Administrator  
Kialegee Tribal Town  
Post Office Box 332  
Wetumka, Oklahoma 74883

Dr. Linda Langley  
Tribal Historic Preservation Officer  
Coushatta Tribe of Louisiana  
Post Office Box 10  
Elton, Louisiana 70532

Ms. Karen Pritchett  
Tribal Historic Preservation Officer  
United Keetoowah Band of Cherokee Indians in Oklahoma  
Post Office Box 1245  
Tahlequah, Oklahoma 74465

Ms. Erin Thompson  
Tribal Historic Preservation Officer  
Absentee-Shawnee Tribe of Oklahoma  
2025 S. Gordon Cooper Drive  
Shawnee, Oklahoma 74801

Ms. Tonya Tipton  
Shawnee Tribe  
Post Office Box 189  
Miami, Oklahoma 74355

Ms. Elizabeth Toombs  
Cherokee Nation  
Post Office Box 948  
Tahlequah, Oklahoma 74465