

ENVIRONMENTAL ASSESSMENT

Demonstration Placement of Private Water Use Facilities within False Foxglove (*Aureolaria patula*) Habitat on Melton Hill Reservoir

TENNESSEE VALLEY AUTHORITY

April 2001

Direct Comments to:
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Background

The Tennessee Valley Authority (TVA) has received two recent requests and several inquires for private water use facilities (i.e., boat docks) on TVA Tract XMHR-2PT on Melton Hill Reservoir at Clinch River Mile 24 (see Figure 1). The applicants and other landowners of the Beech Grove Subdivision do not have deeded access rights to the reservoir. However, TVA permits water use facilities on Melton Hill Reservoir for tracts previously identified as 'Reservoir Operations.' Construction and operation of private water use facilities require approval under Section 26a of the TVA Act. According to the Melton Hill Reservoir Land Management Plan (TVA, 1999), this tract is zoned for residential access, and requests for approval of residential shoreline alterations are considered. Before issuance of 26a approval, TVA considers sensitive resources that may be affected by the proposed activity. False foxglove (*Aureolaria patula*), a plant listed by the State of Tennessee as 'threatened,' occurs on TVA property that lies between these lots and Melton Hill Reservoir. TVA proposes to approve a demonstration for placement and operation of private water use facilities at this location. TVA will not approve other 26a applications at locations where this plant or its habitat are found until the agency can determine that such actions do not negatively affect the plant.

Need for TVA's Action

TVA proposes to enter into a partnership with property owners in the Beech Grove Subdivision to demonstrate that private water use facilities can be selectively constructed and operated without endangering the survival of *A. patula*. The proposed demonstration project would determine if the plant population would be negatively impacted. TVA will use the information gained from this demonstration to evaluate future applications for private use facilities in false foxglove habitat.

In accordance with the National Environmental Policy Act, Council on Environmental Quality regulations, and TVA implementing procedures, TVA has assessed the potential impacts of the project on the human environment. Additional details of the proposed federal action can be found in the attached Environmental Decision Record (EDR). Actions of this type would normally qualify for categorical exclusion 5.2.26, "Approvals under Section 26a of the TVA Act of minor structures, boat docks, and shoreline facilities," under TVA's NEPA implementation procedures. However, because of the presence of a sensitive environmental resource at this site, and the need to understand the impacts of its decision on this sensitive resource, TVA has elected to prepare this environmental assessment (EA).

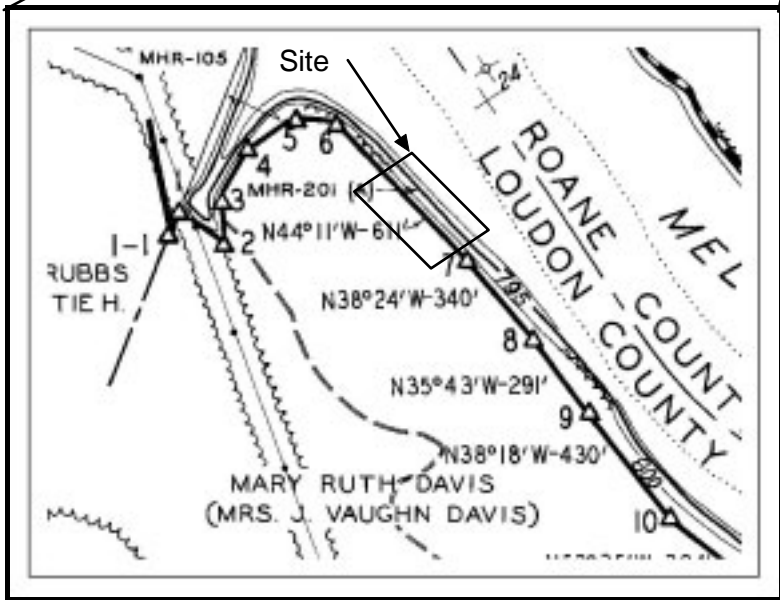
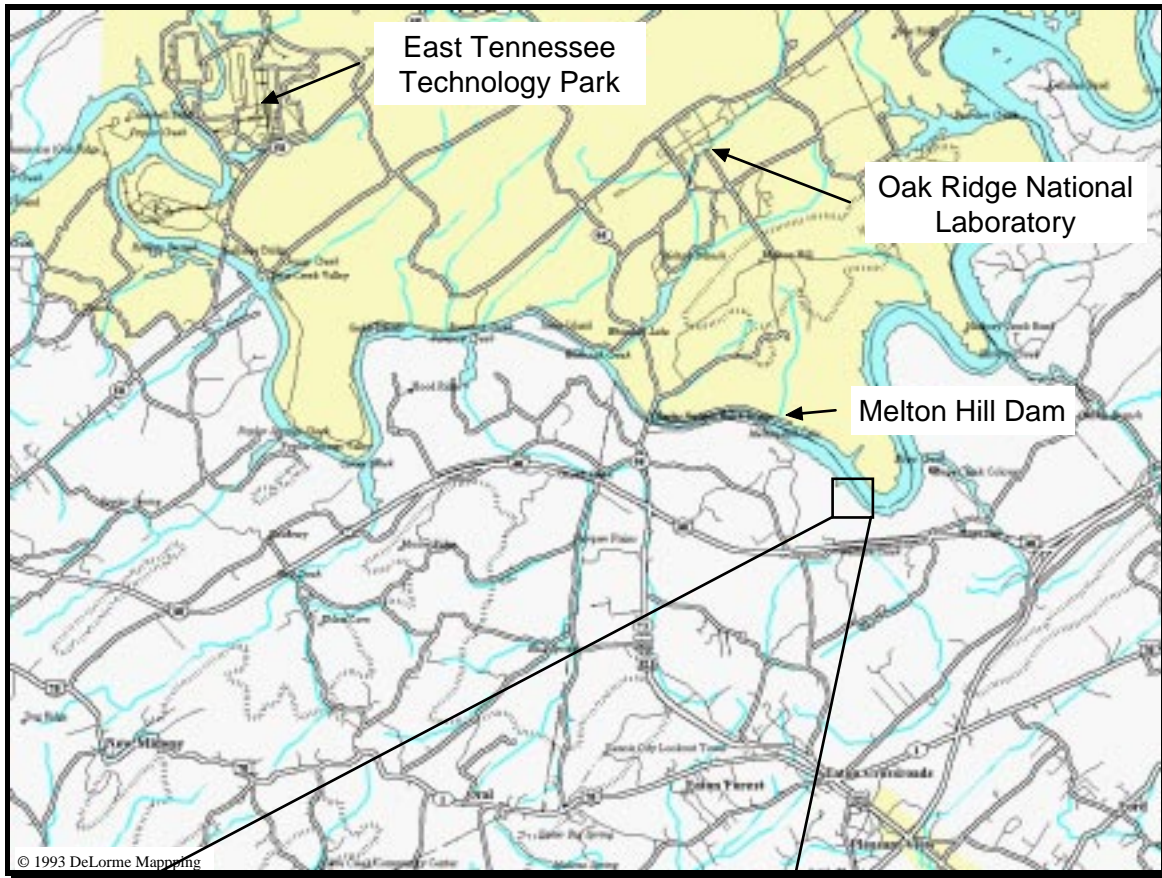


Figure 1. Approximate location for demonstration placement of private water use facilities within false foxglove (*Aureolaria patula*) habitat on Melton Hill Reservoir.

As noted in the attached EDR, the following media categories would be unaffected by the proposed action and are not addressed in this environmental assessment: air quality and waste streams, socioeconomic characteristics, water resources and water quality, wetlands, farmland, significant managed areas, cultural and archeological resources, protected terrestrial and aquatic animals, and visual resources. Routine commitments to avoid adverse impacts to water quality and aquatic resources, as well as navigation, are included in the commitment list in this EA. The environmental issues receiving further attention in this environmental assessment are terrestrial ecology and protected species-sensitive habitat (plants).

Scope

This environmental assessment considers the potential environmental effects resulting from the approval (and implementation of appropriate conditions needed for this approval) of private water use facilities where false foxglove or its habitat occurs on Land Use Zones 1 and 7 of Melton Hill Reservoir. Zone 1 is Non-TVA Shoreline Property, and Zone 7 is TVA property allocated for Residential Access. According to the Melton Hill Reservoir Land Management Plan (TVA, 1999), requests for approval of residential shoreline alterations are considered in Zones 1 and 7.

There are no current proposals for water use facilities on areas where false foxglove or its habitat occurs within Zones 3, 4, or 6. Zones 3, 4 and 6 are allocated in the land management plan for Sensitive Resource Management, Natural Resource Conservation, and Recreation, respectively. If the current demonstration indicates that water use facilities can be constructed across false foxglove populations in such a way as to cause no or insignificant impacts, TVA may use the procedures established from the demonstration to evaluate future applications for water use facilities where the species or its habitat occurs (e.g., Zones 3, 4, and 6). Docks are not anticipated to be constructed in Zone 2 (TVA Project Operations, i.e. reservation property). Although dock facilities are allowable within areas categorized as Zone 5 (Industrial/Commercial Development), proposed facilities would likely be large commercial type docks and are beyond the scope of this environmental review.

The Decision

TVA proposes to approve a demonstration for placement and operation of private water use facilities within false foxglove (*Aureolaria patula*) habitat on Melton Hill Reservoir. TVA would use the results of this demonstration to evaluate future applications for water use facilities in false foxglove habitat. The demonstration would continue until the impact of the associated activities on false foxglove are determined or for a maximum of five years.

Other Federal Approvals Needed

Bank stabilization and dock construction require approvals under Section 10 of the Rivers and Harbors Act of 1899 and under Section 404 of the Clean Water Act. The approval under Section 26a of the TVA Act would be conditioned to require receipt of appropriate approvals from the U.S. Army Corps of Engineers.

Alternatives

If an action alternative is selected, two property owners in the Beech Grove subdivision would be given the opportunity to participate in the demonstration. Property owners in the subdivision who do not participate would have to wait until the demonstration is completed to apply for Section 26a approval for private water use facilities. Following issuance of a 26a approval, the structures would be allowed to remain as long as the property owners comply with the terms of the 26a approval, the terms of the demonstration for its duration, and any subsequent conditions that may be imposed by TVA as a result of that demonstration.

One alternative not considered in detail was the issuance of a 26a approval without conditions to protect false foxglove. This alternative would have the potential to adversely affect false foxglove and therefore would not be compatible with the Shoreline Management Initiative (TVA, 1998) Record of Decision, which committed TVA to protection of sensitive natural resources. TVA's obligation to protect sensitive resources. Thus, this alternative was eliminated from further consideration.

Alternative A — No Action Alternative. Approval under Section 26a would not be granted and no demonstration would be conducted. Those portions of TVA Tract XMHR-2PT that have false foxglove present would have no additional walkways constructed across them, and additional docks would not be constructed in the reservoir fronting these parcels. Thus, there would be no obvious direct effects to false foxglove if this alternative were adopted. However, individuals of this rare plant on Tract XMHR-2PT could be subjected to potential indirect impacts associated with tree removal on the adjacent private land and potential bank erosion on shoreline segments currently needing riprap, if these situations were to occur.

Alternative B — An approval under Section 26a would be granted for construction of a single, 4-foot wide, elevated walkway across Tract XMHR-2PT and for an associated shared dock. The dock would be for use of the two participating landowners, and not for general use by other subdivision landowners not participating in the demonstration. The walkway would be elevated approximately four feet above the TVA property. No land-based footers (i.e., foundations for the walkway) would be allowed within 20 feet of

the summer pool shoreline (i.e., the 795-foot elevation). The walkway would be of grated material to allow sunlight to the ground beneath.

A vegetation management zone would be established on TVA Tract XMHR-2PT and on the adjacent private lands. This zone would extend as necessary up to a maximum of 75 feet from summer pool shoreline and would include both TVA shoreline property and any necessary adjacent private property required to establish a viable zone. Within this area, no woody vegetation would be removed except as necessary to provide a four-foot wide walkway to the elevated walkway crossing Tract XMHR-2PT. Within the vegetation management zone, areas that are presently cleared would be reforested to provide improved habitat for false foxglove. The exact extent of vegetation management zones would depend on local conditions such as width of TVA property, maturity of existing forest, composition of forest, steepness of property, etc. Bank stabilization would be accomplished as necessary by means of riprap. Riprap is the preferred method, as unlike vegetative measures, it does not tend to shade out *A. patula*. TVA would determine the sections of shoreline requiring riprap. Conditions of the population of *A. patula* on the tract would be monitored to determine population changes, if any, occurring in subsequent years.

Alternative C — An approval under Section 26a would be granted for construction of two elevated walkways across Tract XMHR-2PT. Likewise, Section 26a approval would be granted for the construction of two individual docks. These docks would be for the use of the participating landowners. Otherwise, the criteria for construction, operation, bank stabilization, vegetation management and monitoring of *A. patula* would be the same as those stated under Alternative B.

Alternative D — An approval under Section 26a would be granted for construction of two elevated walkways across Tract XMHR-2PT. No restriction would be placed on the walkway elevation; however, they would be placed above ground level. Individual docks for each applicant would be reviewed under existing Section 26a requirements. The width of the access across TVA property would be a maximum of four feet wide and would be located to avoid impacts to potential host trees. Excavation and positioning of land-based footers would be performed by hand, and they would be positioned to avoid direct impacts to *A. patula*. Walkways would be of grated material to allow sunlight to the ground beneath. Plans, placement, and materials would be subject to approval by TVA. The adjacent landowners, as part of the approval, would agree to avoid removal of any live potential host species trees within 50 feet of the summer pool shoreline. Conditions of the population of *A. patula* on the tract would be monitored to determine population changes, if any, occurring in subsequent years. Bank stabilization is recommended to be accomplished by placement of riprap.

Comparison of Alternatives

If the No Action Alternative were adopted, no direct impacts would occur to false foxglove and terrestrial ecological resources. However, these resources could possibly be impacted indirectly by activities occurring on the adjacent private property. Potential bank erosion on shoreline segments along Tract XMHR-2PT currently needing riprap would not necessarily be remedied under the No Action Alternative.

With the adoption of an action alternative, there would be minor, insignificant impacts to certain resources (see attached EDR). The likelihood of potential effects to false foxglove and terrestrial ecological resources are comparable under Alternatives B and C. However, the amount of onsite disturbance under Alternative C would be greater than under Alternative B, as two walkways and two docks would be built. Both Alternatives B and C call for establishment of up to a 75-foot vegetation management zone along the shoreline along with a minimum walkway height of approximately 4 feet. Under Alternative D, there is no minimum walkway height and no shoreline vegetation management zone. However, under Alternative D, participants would agree to avoid removal of any live trees that are potential hosts for *A. patula*. Because of the protective measures inherent in the action alternatives (e.g., restriction of footer locations, and restrictions on vegetation removal and disturbance) significant adverse effects to this rare plant are not expected to occur under any of the alternatives.

Affected Environment and Evaluation of Impacts

Site Description— The site is located in the Beech Grove Subdivision in Loudon County, Tennessee and borders Melton Hill Reservoir at Clinch River Mile 24. The site is steep and forested, except for one lot which was recently cleared for the construction of a home and lawn. False foxglove occurs on the site

Affected Environment

Melton Hill Reservoir is located on the western edge of the Appalachian Ridge and Valley Physiographic Province of mid-east Tennessee (Fenneman, 1938), and is within the Appalachian Oak Forest as described by Kuchler (1966). Tract XMHR-2PT is steep and narrow, with shallow soil and limestone outcrops. The tract is primarily typical upland hardwood forest habitat. Dominant tree species on the site are oak and hickory. Other trees species on the site include yellow poplar and black cherry.

A variety of terrestrial wildlife species occur in upland forested habitats. Mammals commonly found in these habitats include eastern gray squirrel, white-tailed deer, gray fox, and white-footed mouse. Resident and migratory birds that are found in these habitats include eastern tufted titmouse, Carolina chickadee, Northern cardinal, red-bellied, downy and hairy woodpeckers, Carolina wren,

yellow-billed cuckoo, red-eyed vireo, and summer tanager. Reptiles and amphibians that commonly occur in upland forests include five-lined skink, eastern box turtle, American toad, Cope's gray treefrog, and Woodhouse's toad.

Field inspections verified that a Tennessee state-listed species known as false foxglove (*Aureolaria patula*) occurs on Tract XMHR-2PT. No other federal- or state-listed plants or animals are known to occur on this tract. However, the presence of false foxglove along this tract makes the area sensitive from a terrestrial ecology perspective.

A. patula is a hemi-parasite, whose vigor is dependent on its roots attaching to tree roots. The species requires partial sunlight and does not occur in shaded areas such as are found under a closed forest canopy. Certain tree species (e.g., oaks) have been documented to be hosts for the species; however, other species may also serve as hosts (Cunningham, 2000). In addition, non-host trees in the canopy may serve a role in providing the proper amount of sunlight to the false foxglove population.

This species of false foxglove is currently known from 14 other sites on Melton Hill Reservoir, as well as from sites on other TVA reservoirs in the area. Eleven of these populations are on TVA property, and the remaining three populations are on lands held by the U.S. Department of Energy.

Because multiple stems of *A. patula* may arise from a single plant within a restricted area, determination of the number of individual plants is usually not feasible. Counting the number of stems is the preferred method of comparing sizes of *A. patula* populations.

Although detailed population data are not available for all 15 known sites, sizes of populations on Melton Hill Reservoir vary from as few as a single stem to 1,619 stems in the largest known population. The demonstration is proposed in the area of this population. The second largest known population is about one-third size of the largest, with 556 stems.

Baseline population data have been gathered at the demonstration site and at two control sites. This information includes the number of stems of *A. patula* and their distribution within the population. In most cases, the monitored populations have been subdivided into 50-foot long segments and the number of stems were inventoried in each segment. If an action alternative is selected, these three populations would be re-monitored annually for up to five years to determine changes in populations. A comparison of population data would be used to determine the impacts of the demonstration on the population.

Impacts Evaluated

Potential impacts from the proposed action of construction and operation of the private water use facilities, as described in the attached EDR, are considered in this EA. TVA staff conducted internal scoping of issues associated with the proposed action and determined that potential impacts on terrestrial ecology and protected species-sensitive habitats (plants) needed further evaluation in this environmental assessment.

Alternative A— No Action Alternative. Alternative A offers protection to *A. patula* and terrestrial ecological resources in terms of protection from the proposed activities. Implementation of this alternative would preclude any clearing or construction activities at the proposed site. However, Alternative A does not offer protection from activities (e.g., habitat manipulation) occurring on the adjacent private property nor does it address potential bank erosion on shoreline segments of Tract XMHR-2PT currently needing bank stabilization. Such factors could result in negative impacts to false foxglove or its habitat. This could reduce site biological diversity and result in negative impacts on terrestrial biological resources of the site.

Alternative B— Under Alternative B, some localized disturbance (i.e., construction of a dock and a 4-foot wide walkway) would occur on the TVA property along the shoreline and on the adjacent private land within the shoreline vegetation management zone. However, Alternative B affords more overall protection of false foxglove than Alternative A, because vegetation management to maintain or enhance the habitat for *A. patula* and terrestrial ecological resources would be required on a portion of the adjacent private property (i.e., the private property within the shoreline vegetation management zone). Therefore, direct and indirect impacts to *A. patula* and terrestrial ecology as a result of this alternative are expected to be insignificant.

Alternative C— Under Alternative C, a maximum of two walkways would be permitted through the site. The two elevated walkways would cause minor onsite fragmentation of the terrestrial habitat, and they would have slightly more potential to introduce indirect and direct impacts on the terrestrial resources of the site than Alternative B. However, because the amount of onsite disturbance to false foxglove and its habitat would be minor, adoption of Alternative C would result in insignificant impacts to the population. This alternative would offer adequate protection for false foxglove population to maintain site biological diversity. Overall, impacts to terrestrial ecological resources are expected to be minor and insignificant.

Alternative D— Under Alternative D, no vegetation management zone would be established; however, removal of trees would be prohibited within 50 feet of the shoreline, and the condition to avoid the removal of trees

would apply to known host trees. Trees other than those known to be hosts play a role in providing suitable habitat for *A. patula*.

Under Alternative D, no specific restrictions would be placed on land-based footers. However, approval of proposed facilities under this alternative would require that land-based footers be installed by hand and positioned such that direct impacts to *A. patula* are avoided. Under this alternative, application of riprap is recommended, but not required to afford specific protection of habitat. Placement of two walkways could fragment the habitat for terrestrial resources and introduce potential direct and indirect impacts on the terrestrial resources of the site. Because Alternative D does not include as many specific safeguards to protect false foxglove and the immediate plant community as the other action alternatives, its adoption has the potential to reduce site biological diversity somewhat and possibly negatively affect terrestrial resources (specifically, plant communities) of the site. Because of the localized nature of the onsite activities, overall effects on biological diversity and terrestrial resources would be minor and insignificant.

Cumulative Impacts— The proposed demonstration would serve as a benchmark for subsequent requests for water use facilities. If construction and operation of the proposed facilities does not cause negative impacts to the false foxglove population and terrestrial ecological resources, future water-use facilities could be permitted using similar safeguards. If the proposed demonstration reveals negative effects to the false foxglove population or to terrestrial ecological resources from reservoir-wide implementation, TVA would use this information to evaluate future 26a requests and/or to improve safeguards used in future 26a approvals. By limiting the demonstration to one site and potential impacts to one population, the cumulative impacts of the proposed demonstration, regardless of its effect on a few individuals of *A. patula*, are not expected to be significant. Similarly, implementation of the proposed demonstration is not expected to result in significant effects to rare plants or terrestrial resources on Melton Hill Reservoir.

TVA, in its *Shoreline Management Initiative (SMI) – Environmental Impact Statement*, determined that development on as much as 38 percent of the TVA reservoir system shoreline for residential access would have minor or negligible effects on shoreline resources, including terrestrial ecology. In addition, the vegetation management and access corridor widths recommended in these action alternatives are more restrictive than those adopted by SMI, suggesting further reduction and reduction of cumulative impacts on terrestrial ecology as a result of the adoption of one of the alternatives.

Commitment List

In order to minimize potential environmental effects, Section 26a approval under Alternatives B or C will be conditioned as follows:

1. A vegetation management zone with a maximum of 75 feet from summer pool shoreline will be determined by TVA and maintained by the participating landowners.
2. Participating landowners shall be responsible for maintaining the vegetation management zone. The adjacent, upland property will be maintained to prevent erosion and runoff into the vegetation management zone.
3. Best Management Practices (TVAs General and Standard Conditions 6 a-c and f-i) shall be used throughout the project to prevent the introduction of soil or any other pollutants into the reservoir or harm to existing *A. patula*. Also, required are the following;
 - A. The participating landowners shall provide for immediate revegetation or other stabilization of disturbed areas as described in TVAs General and Standard Conditions 6i.
 - B. Excavation and construction shall be conducted during reservoir drawdown, TVA will approve facility plans, placement, and installation.
 - C. There will be no wet cement contact with reservoir waters or tributaries.
4. The riverward extension of the water use facility from lot A, as designated on the property plate, shall be limited to 38-feet to avoid interference with commercial navigation in the bend of the river.
5. No footers or other foundations for the walkway(s) shall be located within 20 feet of the summer pool elevation (795 feet elevation).
6. Plans for proposed water access facilities, revegetation, and shoreline stabilization shall be submitted to TVA for approval at least 30-days before work is scheduled. TVA will schedule with the applicants or their representatives for a time to locate and mark the establishment of vegetative management zones and access pathways. TVA will be notified when work on the proposed facilities are scheduled to begin, a TVA representative may be on site during critical installation times, such as during earth moving and vegetation removal. Participating landowners will provide access to affected privately owned facilities and property to TVA personnel for inspections and data collection.

7. Walkways shall be elevated approximately 4 feet and constructed of grated material to allow passage of sunlight to the ground beneath.
8. In order to protect foxglove habitat and TVA property, TVA shall identify shoreline requiring stabilization. Riprap as described in TVAs General and Standard conditions number 6g, shall be used to stabilize eroding shoreline.

In order to minimize potential environmental effects, Section 26a approval under Alternative D will include conditions 1 through 6 above along with the following conditions:

1. Participating landowners shall not remove any live trees that are potential hosts for *A. patula* occurring within 50 feet of the summer pool shoreline.
2. Walkways shall be elevated and constructed of grated material to allow passage of sunlight to the ground beneath.

Preferred Alternative— TVA's preferred alternative is to implement Alternative C. Adoption of this alternative would offer the greatest amount of protection to the local population of *A. patula*, while allowing access to private water use facilities and demonstrating the effectiveness of various protective guidelines.

List of TVA Preparers

Joseph Leo Collins, Botanist, Watershed Technical Services, Norris, Tennessee

Michael R. Crowson, Manager, Melton Hill Watershed Team, Lenoir City, Tennessee

Harold M. Draper, Senior NEPA Specialist, Environmental Policy and Planning, Knoxville, Tennessee

Wesley K. James, Regional Wildlife Biologist, Mideast Region, Lenoir City, Tennessee

Jason M. Mitchell, Biologist, Watershed Technical Services, Norris, Tennessee

Richard L. Toennisson, Regional Environmental Scientist, Mideast Region, Lenoir City, Tennessee

James F. Williamson, Jr., Environmental Projects Manager, TVA Watershed Technical Services, Norris, Tennessee

Agencies and Others Consulted

Tennessee Department of Environment and Conservation, Division of Natural Heritage, 401 Church Street, 14th Floor L&C Tower, Nashville, Tennessee 37243-0447

United States Army Corps of Engineers, Regulatory Branch, P. O. Box 1070, Nashville, Tennessee 37202

References

Cunningham, M. 2000. Population Biology of a Rare Hemiparasite, *Aureolaria patula* (Chapman) Pennell (*Scrophulariaceae*): Demographic Trends, Host Interactions, and Reproductive Biology. Dissertation Presented for the Doctor of Philosophy Degree, The University of Tennessee, Knoxville.

Fenneman, J. J. 1938. Physiography of Eastern United States. McGraw Hill, New York.

Kuchler, A. W. 1966. Potential Natural Vegetation Map. 1996 National Atlas of the United States. University of Kansas.

Tennessee Valley Authority. 1998. Shoreline Management Initiative: An Assessment of Residential Shoreline Development Impacts in the Tennessee Valley, Final Environmental Impact Statement. Knoxville, Tennessee.

Tennessee Valley Authority. 1999. Melton Hill Reservoir Land Management Plan, Final Environmental Assessment. Melton Hill Watershed Team. Lenoir City, Tennessee.

Attachment

RESOURCE STEWARDSHIP ENVIRONMENTAL DECISION RECORD (EDR)*

PROJECT ID NUMBER RLR 105095 and 105067
 (Assigned by Initiating Organization)

TRACKING NUMBER: _____ (NEPA Administration Use Only)

Organization Initiating Project: TVA Resource Stewardship - Melton Hill Watershed Team

Project Manager: Scott Ledford **Address:** LM 1A MHH **Phone:** (423) 988-2443

Preparer: Rick Toennisson **Address:** LM 1A MHH **Phone:** (423) 988-2444
 (If different from Project Manager)

Project Action Title: Private Water Facilities and Sensitive Species Demonstration

Project Action Description:

- a. **Location:** (e.g., TVA land, facility, reservoir, county, state) TVA land, Tract XMRH-2PT, Melton Hill Reservoir, 130NE, D-Stage 2, Clinch River Mile 24.0 L, Loudon County, Tennessee
- b. **TVA Involvement:** (TVA land, facility, funds, technical assistance, etc.) A TVA funded project on XMRH-2PT, to demonstrate methods of private water use facility construction and riprap, 26a.
- c. **Narrative:** (include name of applicant, if any) Proposed partnerships with 26a applicants Randy and Lisa Roberts (RLR 105095) and John B. Satterfield (RLR 105067) (see EA for details).

Public Notification: No Yes (Attach Copy)

Permits Required from Other Agencies: USACE 404 Permit

Project Environmental Commitments: (Attach sheet for additional commitments. Include performing organization and estimated completion date.)

See attached Environmental Assessment.

LEVEL OF REVIEW DETERMINATION: (Check one, based on supporting information on Page 2)

Categorical Exclusion pursuant to Section 5.2.26 of TVA NEPA Procedures. No nonroutine commitments have been identified as necessary to avoid significant environmental impacts. *The action does not qualify for categorical exclusion if Unknown or Significant is checked under Potential Effects.*

Environmental Assessment (EA) or

Environmental Impact Statement (EIS) needed, pursuant to Sections 5.3 or 5.4 of TVA NEPA Procedures. (See EA or EIS instructions).

Scott Ledford
 Signature, Project Manager Date

Rick Toennisson
 Resource Stewardship NEPA Reviewer Date

Distribution (with pages of attachments):

**cc: NEPA Administration, WT 8C-K
 Resource Stewardship, Regional Environmental Scientist**

*For more information on using this form, please contact NEPA Administration at 423-632-NEPA

PROJECT ID NUMBER RLR 105097 and 105067
 (Assigned by Initiating Organization)

TRACKING NUMBER: _____
 (NEPA Administration Use Only)

Media Categories	Potential Effects					Requirements	Information Source
Refer to Exhibit 3 of EDR instructions for description of media categories.	NONE	UNOWN	BENEFICIAL	INSIGNIFICANT		NONE	Provide name of media expert providing input or reference document and date (reference documents are to be attached to EDR). This column must be completed for each media category unless none is checked. If you are certain that potential effects (either positive or negative) are none (based on the RS Prescreening Criteria Checklist), it is not necessary to contact the media expert. Refer to the RS Prescreening Criteria Checklist or Exhibit 2 of EDR instructions for a listing of TVA media experts for each category.
WASTE STREAM GENERATION OR ALTERATION							
Air	x					x	Nature of Action - Scott Ledford 12/4/00
Hazardous Waste	x					x	Nature of Action - Scott Ledford 12/4/00
Solid Waste	x					x	Nature of Action - Scott Ledford 12/4/00
Special Materials	x					x	Nature of Action - Scott Ledford 12/4/00
Wastewater	x					x	Nature of Action - Scott Ledford 12/4/00
SOCIOECONOMIC EFFECTS							
Land Use	x					x	E-Mail 12/4/00 Scott Ledford
Transportation				x			E-Mail 11/22/00 Buchanan to Ledford
Recreation	x					x	Nature of Action - Scott Ledford 12/4/00
Noise	x					x	Nature of Action - Scott Ledford 12/4/00
EMF	x					x	Nature of Action - Scott Ledford 12/4/00
EFFECTS ON NATURAL FEATURES							
Groundwater	x					x	Nature of Action - Scott Ledford 12/4/00
Surface Water				x		x	E-Mail 11/28/00 - G. Peck
Stream Modification	x					x	Nature of Action - Scott Ledford 12/4/00
Floodplains	x					x	Nature of Action - Scott Ledford 12/4/00
Wetlands	x					x	E-Mail 12/4/00 - W. James
Farmland	x					x	Nature of Action - Scott Ledford 12/4/00
Significant Managed Areas	x					x	E-Mail - W. James 12/14/00
Historic Structures	x					x	E-Mail - Eric Howard 11/2/00
Historic Sites	x					x	E-Mail - Eric Howard 11/2/00
Archaeological Resources	x					x	E-Mail - Eric Howard 11/2/00
Aquatic Ecology				x			E-Mail - G. Peck 11/28/00
Terrestrial Ecology		x					E-Mail - W. James 12/4/00, address in EA.
Protected Species-Sensitive Habitat							
Aquatic Animals	x					x	E-Mail - W. James 12/4/00
Terrestrial Animals	x					x	E-Mail - W. James 12/4/00
Plants		x					E-Mail - L. Collins 11/28/00, address in EA.
Visual	x					x	Nature of Action - Scott Ledford 12/4/00

Ledford, W Scott

From: Howard, Anthony Eric
Sent: Thursday, November 02, 2000 11:06 AM
To: Ledford, W Scott
Cc: Ezzell, Patricia B.
Subject: MH- Beech Grove Subdivision Demonstration Proposal- Tract no. XMHR-2PT- 4 alternatives

Beech Grove Subdivision Demonstration Proposal

A Phase I archaeological survey was conducted, along TVA fee land, in the project area by the University of Tennessee in 1995. The survey involved surface inspection at 20m transects to determine if archaeological resources were present. No historic properties were identified. Due to the terrain, this area is not conducive for deeply buried soils. No historic properties will be affected by any of these alternatives.

Eric

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George Peck

Mltm Hill-Beech Grove EA.doc

Affected Environment - Water Quality

TVA initiated its Vital Signs Monitoring Program in 1990 to systematically monitor the ecological conditions of run-of-the-river (mainstream) and tributary storage reservoirs using indicator parameters to judge overall ecological "health." Indicators were dissolved oxygen (DO), chlorophyll, sediment quality (sediment toxicity tests and/or sediment chemical analyses including ammonia, heavy metals, pesticides, and PCBs), and benthic macroinvertebrate and fish communities.

Overall Vital Signs Monitoring ratings for Melton Hill Reservoir have been either fair or good since the program began. DO and chlorophyll have consistently received good ratings at the forebay station at the dam (CRM.24.0) each year until 1998, when elevated chlorophyll levels resulted in a fair rating. Sediment continued to be rated fair due either to chlordane concentrations. In 1998, the last year for which reservoir monitoring results are available, the overall ecological condition for Melton Hill Reservoir was fair, slightly below the break point between good and fair.

Affected Environment - Aquatic Ecology

Aquatic habitat in the littoral (near shore) zone is greatly influenced by underwater topography and backlying land use. Underwater topography in this reach of Melton Hill Reservoir is moderately steep, to typically shallower in coves, and areas further from the river channel. Rock is an important constituent of littoral aquatic habitat over most of the reservoir, and in this area, either in the form of bedrock outcrops or a mixture of rubble and cobble on steeper shorelines or gravel along shallower shorelines.

Benthic (lake bottom) macroinvertebrate samples were taken in three areas of Melton Hill Reservoir from 1991 through 1994, and again in 1996 and 1998, as part of TVA's Reservoir Vital Signs monitoring program. The area surrounding Tract 2PT is included the forebay sampling area (i.e., the area of the reservoir nearest the dam). Benthic macroinvertebrates are included in aquatic monitoring programs because of their importance to the aquatic food chain, and because they have limited capability of movement, thereby preventing them from avoiding undesirable conditions. Sampling and data analysis were based on seven parameters (eight parameters prior to 1995) that indicate species diversity, abundance of selected species that are indicative of good (and poor) water quality, total abundance of all species except those indicative of poor water quality, and proportion of samples with no organisms present. The bottom community in the forebay rated fair in 1994, and poor 1996 and 1998 (TVA 1999).

The Reservoir Vital Signs monitoring program also has included annual fish sampling at Melton Hill from 1990 through 1994, and in 1996 and 1998. Sampling stations correspond to those described for benthic sampling. Fish are included in aquatic monitoring programs because they are important to the aquatic food chain and because they have a long life cycle which allows them to reflect conditions over time. Fish are also important to the public for aesthetic, recreational, and commercial reasons. Ratings are based primarily on fish community structure and function. Also considered in the rating is the percentage of the sample represented by omnivores and insectivores, overall number of fish collected, and the occurrence of fish with anomalies such as diseases, lesions, parasites, deformities, etc. (TVA 1999). Compared to other run-of-the-river reservoirs, the fish assemblage at the Melton Hill forebay station has ranged from poor in 1992 to fair in 1990 and 1993, to good in 1991, 1994, and 1996, and excellent in 1998. These results indicate that the Melton Hill fish community is very dynamic with somewhat unusual annual fluctuations in community quality. Species diversity and abundance are generally not as high as in other run-of-the-river reservoirs.

A total of 32 fish species and the Cherokee bass (striped x white bass hybrid) was collected in TVA's most recent fish collections at the Melton Hill forebay in the fall of 1996. More abundant species in the overall sample were gizzard shad, common carp, and bluegill (TVA 1999).

Environmental Consequences - Water Quality

With the implementation of measures to minimize runoff from Tract 2PT during clearing and construction, and during subsequent years, water quality would not be significantly affected under any of the action alternatives. Action alternatives that would maintain a more natural vegetated shoreline condition and provide for stabilization where warranted are preferred because they would reduce erosion from the tract and along the shoreline.

Environmental Consequences - Aquatic Ecology

Impacts to aquatic life under any of the action alternatives will be insignificant with the implementation of measures to minimize runoff from Tract 2PT during construction, and during subsequent years, and to maintain a more natural vegetated shoreline condition and provide for stabilization where warranted.

Commitments - Water Quality and Aquatic Ecology

Impacts to surface water and the aquatic environment resulting from the proposed activities will be insignificant with the following commitments and 26a approval conditions:

- Removal of vegetation is to be minimized, particularly any woody vegetation providing shoreline stabilization.
- Best Management Practices will be used throughout the project to prevent the introduction of soil or any other pollutants into the reservoir, including immediate revegetation or other stabilization of disturbed areas.
- Movement of equipment on the shoreline will be minimized to the extent practicable while conducting excavations and construction.
- Maintenance equipment will be kept off of the reservoir shoreline to the extent practicable, and the upland property will be indefinitely maintained to prevent erosion.
- To the extent practicable, excavation and construction are to be conducted during reservoir drawdown.
- Wet cement contact with the reservoir is to be avoided.
- Any water intake openings are to be screened with 1/8" (maximum) screen to prevent the entrapment of small fish.

Literature Cited

Tennessee Valley Authority. 1999. Aquatic Ecological Health Determinations for TVA Reservoirs-1998. D. L. Dycus and D. L. Meinert, and T. F. Baker, editors. Water Management, Chattanooga, Tennessee.

Electronically coordinated on 12/01/00

December 1, 2000

W. Scott Ledford, LM 1A-MHH

SECTION 26a FILE 105095 - PRIVATE WATER USE FACILITIES - RANDAL ROBERTS - CLINCH RIVER MILE 24.0L, MELTON HILL RESERVOIR - LOT A. BEECH GROVE SUBDIVISION - D-STAGE MAP 2D

This responds to your November 13 request for comments on the subject Section 26a permit application, my response of November 22, and our telephone conversation with Cathy Elliott of the Corps of Engineers on November 30.

Randal Roberts has submitted plans to construct a floating, covered, boatslip at Clinch River mile 24.0L, Melton Hill Reservoir, on lot A in Beech Grove Subdivision. The proposed facility would be 28 feet long by 28 feet wide and would be connected to the shoreline by a 20 foot long by 4 foot wide walkway. The facility will extend approximately 48 feet riverward at elevation 792 as shown on the drawing. At this location the navigation channel extends from bank to bank and follows near the center of the river.

To avoid interference with commercial navigation, docks along this immediate stretch of shoreline should be restricted in length. A previously approved dock upstream from lot A was limited to 12 feet. As we discussed, work has begun on the dock on lot C which will extend out about 44 feet without the dive platform. We recommend issuance of the requested permit contingent upon the following conditions:

1. The applicant agrees to reduce the riverward extension of the dock to 38 feet since the lot is in the bend of the river.
2. The applicant is advised in writing that the facility will front on a commercial navigation channel at a location where the sailing line follows near the center of the river making the facility and any moored boats vulnerable to wave wash and possible collision damage from passing vessels.
3. All floating facilities are securely anchored to prevent them from floating free during major floods.

For the EDR, you may use:

<u>Category</u>	<u>Potential Effects</u>	<u>Requirements</u>
Navigation	Insignificant	Commitments

If you have any questions, please give me a call at 865 632-4886.

Original signed by

Robert E. Buchanan, Jr., P.E., F.ASCE, NSPE
Program Administrator, Navigation
Navigation and Structures Engineering
WT 10C-K

REB

cc: Files, RO, WT 10C-K
Cathy Elliott, USACE, Lenoir City
26a Memo/105095



DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
3701 Bell Road
NASHVILLE, TENNESSEE 37214

March 20, 2001

REPLY TO
ATTENTION OF:

Regulatory Branch

SUBJECT: Draft Environmental Assessment (EA)-Proposed Placement
of Private Water Use Facilities Within False Foxglove Habitat,
Melton Hill Reservoir, Loudon County, Tennessee

Mr. Jon Loney, Manager
Environmental Policy & Planning
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902-1499

Dear Mr. Loney:

This is in response to your February 15, 2001, letter concerning the Tennessee Valley Authority's efforts to protect false foxglove (*Aureolaria patula*) a Tennessee listed threatened species.

We have reviewed your draft Environmental Assessment and offer the following comments:

- TVA is commended for taking this protective action for a non-federally listed species.
- On page 10, item 8, TVA commits to obtain Corps of Engineers permits prior to issuance of the 26a approval. We see no reason to alter the normal TVA/Corps established approval processes, because of this demonstration project. The proposal would have to pass TVA scrutiny before the Corps would be asked to approve any structures or streambank protection projects occurring on TVA managed lands. Therefore, should TVA approve these landowner facilities, plans should be forwarded to us as with any other permit action for our evaluation.
- On page 11, **Agencies and Others Consulted**, our new address should cited.

We appreciate the opportunity to review this EA, and hope this demonstration project is successful.

If you have any question regarding this matter, please contact me at the above address, or telephone (615) 369-7515.

Sincerely,


Ron Gatlin, Chief
Regulatory Branch



United States Department of the Interior

FISH AND WILDLIFE SERVICE

446 Neal Street
Cookeville, TN 38501

April 4, 2001

Mr. Jon M. Loney
Manager, NEPA Administration
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902-1499

Re: FWS #01-1566

Dear Mr. Loney:

Thank you for your letter and enclosure of February 15, 2001, transmitting a draft environmental assessment for the proposed placement of private water use facilities within false foxglove habitat on Melton Hill Reservoir in Loudon County, Tennessee. Fish and Wildlife Service biologists have reviewed the document and we offer the following comments.

False foxglove (*Aureolaria patula*) was formerly a candidate for Federal listing, however, it was removed from the official candidate list in 1995. This species currently has no Federal status, but it is listed as threatened by the State of Tennessee and it remains a species of concern to us.

The proposed action is a demonstration to determine if a particular type of construction and use of private water use facilities—i.e., boat docks—adversely affect the false foxglove or its habitat. Alternatives being considered include construction of one or two docks with elevated walkways four feet in width over the habitat occupied by the false foxglove. Bank stabilization would be conducted and restrictions on removal of vegetation in and around the habitat would be established. The site would be monitored for a period of at least five years to record impacts, if any, to the plants or habitat. Conditions and/or restrictions on issuance of permits for future water use facility construction would be based on data obtained from this demonstration project.


We support the proposed demonstration project. The results will provide valuable information that can be used to protect the plant from the effects of future activities conducted within the species' habitat. If the species can be protected from threats posed by construction, development, and other actions, populations can be maintained at a level at which elevation to candidate status and possible listing will not be necessary.

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We request that you keep us informed as this demonstration project proceeds and that you provide us with copies of monitoring data as it becomes available.

Thank you for the opportunity to comment on this action. Your concern for the protection of rare species is greatly appreciated. If you have any questions, please contact Jim Widlak of my staff at 931/528-6481, ext. 202.

Sincerely,


for Lee A. Barclay, Ph.D.
Field Supervisor

Draper, Harold M.

From: Patricia E Riley[SMTP:periley@usgs.gov]
Sent: Wednesday, March 21, 2001 10:15 AM
To: hmdraper@tva.gov
Subject: Draft EA

Harold,

USGS has reviewed the Draft Environmental Assessment - Proposed Placement of Private Water Use Facilities Within False Foxglove (*Aureolaria patula*) Habitat on Melton Hill Reservoir, Loudon County, Tennessee, and has no comments to offer. Thanks.

Trish Riley
U.S. Geological Survey
Reston, VA