Final Environmental Assessment
Melton Hill Reservoir
Land Management Plan

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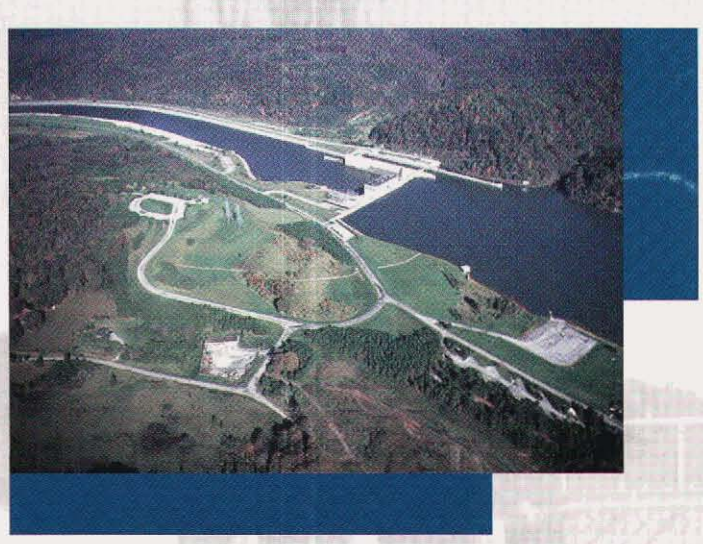

Volume I

TVA

FINAL ENVIRONMENTAL ASSESSMENT
MELTON HILL RESERVOIR
LAND MANAGEMENT PLAN

April 1999

RESOURCE STEWARDSHIP
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TABLE OF CONTENTS

Appendixes

LIST OF TABLES

Figures

Exhibits

CHAPTER 1

Purpose of and Need for Action

Melton Hill Reservoir was created by the Tennessee Valley Authority (TVA) in 1963 with the completion of a 103-foot high dam at Clinch River mile (CRM) 23.1. The Clinch River is a major tributary of the Tennessee River. The resulting 5,690-acre reservoir was named for a prominent nearby geological feature, Melton Hill, on Copper Ridge, where the U.S. Coast Guard and Geodetic Survey had established a triangulation station in 1884. See Figure 1, a map of Melton Hill Reservoir.

The original reservation was created by acquiring 5,303 acres of land for the Melton Hill Project from private property owners and 764 acres from the former Atomic Energy Commission (AEC). In addition, TVA acquired from the AEC 1,607 acres of flowage easement rights, along a narrow strip of shoreline on the right descending bank between CRM 23.1 and 43.7. The rights allow TVA to intermittently store flood waters above the normal summer pool for reservoir operations purposes. (See Appendix A for detailed description of flowage easement rights.) AEC lands are now managed by the Department of Energy (DOE) as the Oak Ridge Reservation.

Subsequent transfers and/or sales of land by TVA for various commercial, industrial, and recreation uses have resulted in a current balance of 2,578 acres of TVA land on Melton Hill Reservoir.

In order to systematically manage its land, TVA develops reservoir land management plans. These plans seek to integrate land and water benefits, provide for the optimum public benefit, and balance competing and sometimes conflicting resource uses. By providing a clear statement of how TVA intends to manage land and by identifying each parcel for specific purposes, TVA hopes to balance conflicting uses and facilitate decision making for use of its land. Plans are approved by the TVA Board of Directors and adopted as agency policy to provide for long-term land stewardship and accomplishment of TVA's mandates under the 1933 TVA Act.

Land management plans have been completed and implemented for seven mainstream reservoirs on the Tennessee River and are now being developed for the tributary reservoirs. Historically and presently on tributary reservoirs, TVA uses the Forecast. The Forecast, developed in 1966 for Melton Hill Reservoir, serves as a general guide for land use and/or development for all TVA land around the reservoir. The purpose of this environmental assessment (EA) is to examine the impacts of possible alternative plans for the use of TVA land on Melton Hill Reservoir.

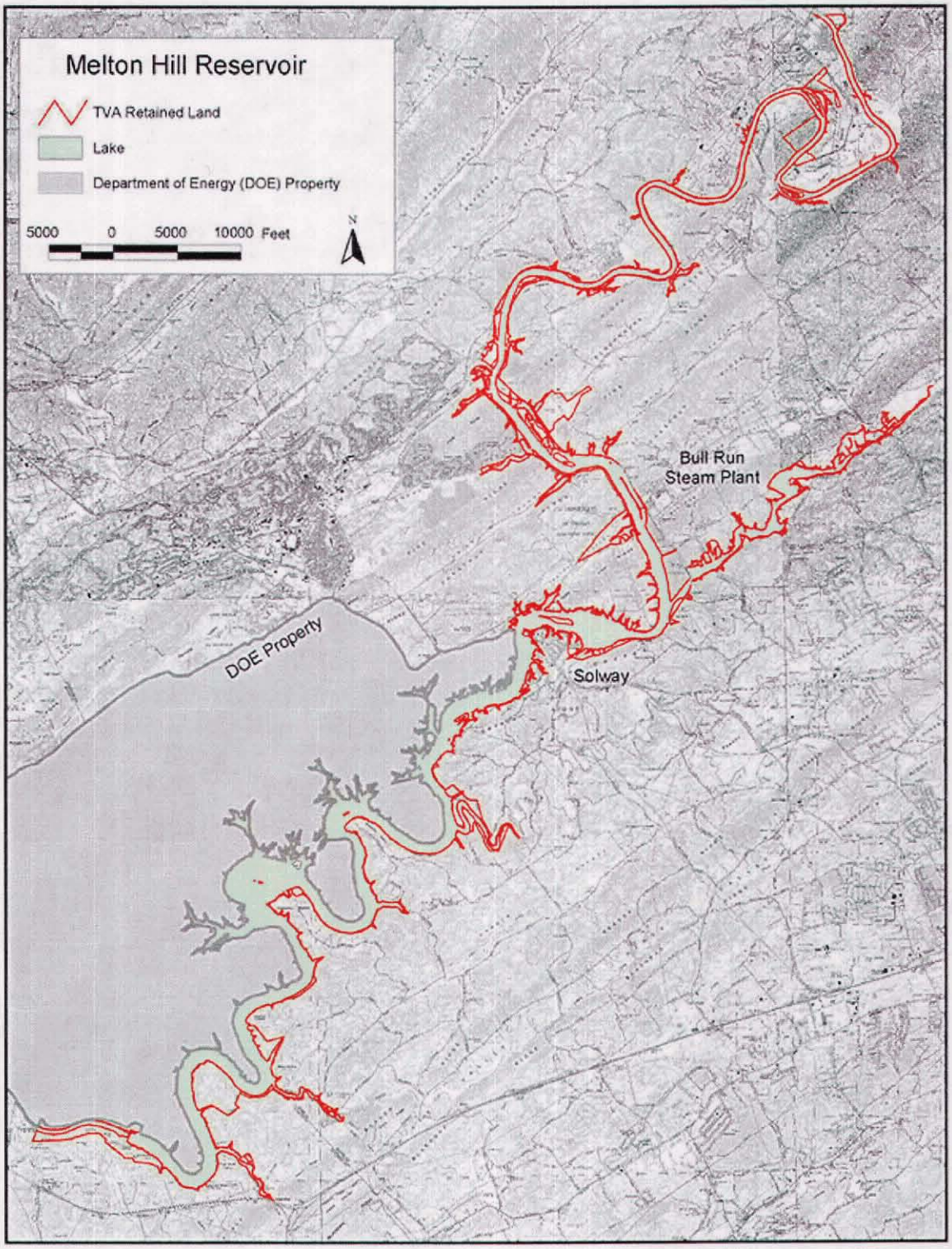

Figure 1. Map of Melton Hill Reservoir

1.1 Other Pertinent Environmental Reviews or Documentation

Tennessee River and Reservoir System Operation and Planning Review (TVA, 1990). In December 1990, TVA completed an environmental impact statement (EIS) addressing changes to TVA reservoir operations for maintaining minimum flows below dams, for increasing dissolved oxygen, and for delaying summer lake level drawdowns. In that EIS, TVA also addressed the environmental and socioeconomic consequences of changes in reservoir operations on the land base and associated shoreline development and uses.

Shoreline Management Initiative (SMI): An Assessment of Residential Shoreline Development Impacts in the Tennessee Valley (TVA, 1998). TVA has completed an EIS on residential shoreline development impacts throughout the Tennessee Valley. Under the Blended Alternative, sensitive natural and cultural resource values of reservoir shorelines would be conserved and retained, by preparing a shoreline categorization for individual reservoirs; by voluntary donations of conservation easements over flowage easement or other shoreland to protect scenic landscapes; and by adopting a "maintain and gain" public shoreline policy to ensure no net loss and preferably a net gain of public shoreline when considering requests for additional access rights. This EA tiers off the SMI EIS, while assessing the cumulative impacts of activities of the different TVA reservoirs on each other.

Carden Farm Industrial Park (TVA, 1985). In March 1985, TVA completed an EA for the sale of land (Tract XMHR-49) for a proposed industrial park at CRM 59.0L to 60.5L at Clinton, Tennessee. This site was identified by the *Melton Hill Reservoir Comprehensive Plan for Land Use Development* (Tennessee State Planning Commission, 1960) for industrial development. TVA approved the sale of the 144 acres for light- to medium-sized industrial development, provided that specific environmental controls are used, and that any new industry receives TVA review and approval prior to construction. There are currently several active industries onsite.

Melton Hill Reservoir Comprehensive Plan for Land Use Development (Tennessee State Planning Commission, 1960). This plan reviewed the potential impacts of creating a reservoir on several key resources. The plan includes discussion of navigation, power production, competition for land and water uses, population and economy of the area, industrial land needs, and recreational land needs. It recommended the establishment of areas or sites specifically for recreation, industrial, and commercial activities. It also recommended the establishment of a regional council to review developments and mutual problems and seek cooperative solutions. The plan and recommendations led to the creation of the Melton Hill Regional Industrial Development Association and provided the basis for TVA's existing Forecast.

1.2 The Decision

The TVA Board of Directors would decide whether to adopt the Melton Hill Reservoir Land Management Plan to guide implementation of future policy or continue the use of the existing Forecast for land use. Forecast maps were developed that show the boundary of each tract of land and its forecast designation.

1.3 Public Involvement and Issue Identification

In January 1997, an article was published in the *TVA River Neighbors* newsletter announcing that land use planning was underway on Melton Hill Reservoir. This publication was sent to over 20,000 people inside and outside the Tennessee Valley. Thirty-five peosple responded by calling 1-800-TVALAND and asked to be placed on the land planning mailing list for Melton Hill Reservoir. Anyone who wishes can now be added to the mailing list by calling 423-988-2440.

A questionnaire was developed and sent to individuals requesting inclusion on the mailing list and other interested parties, soliciting their comments about desirable uses of Melton Hill Reservoir lands. Questionnaires were given to fourth-grade students to take home to their parents at five elementary area schools located at Claxton, Karns, Eaton, Kingston, and Oak Ridge. Questionnaires were also distributed to merchants (i.e., hunting and specialty stores), local libraries, and visiting fishermen, picnickers, and campers on the Melton Hill Dam Reservation. A similar questionnaire was developed for local county and city officials, area planning organizations, and other stakeholder groups, concerning land use on Melton Hill Reservoir. In total, over 1,000 questionnaires were distributed in the area; 167 survey responses were returned. The questionnaire and corresponding responses are provided in Appendix B.

TVA staff also solicited input from a representative cross section of groups who use or are concerned with the natural resources of Melton Hill Reservoir. Various state and federal agencies and resource conservation groups such as the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers, Tennessee Wildlife Resources Agency (TWRA), Quail Unlimited, Tennessee Division of Forestry, and others, were asked to participate in the planning process by providing information and input, including information concerning proposed or ongoing activities and land use issues around Melton Hill Reservoir. Responses from these groups are also provided in Appendix B.

Internal scoping and historical information, as well as comments from the general public, public officials, stakeholders, peer agencies, and focus groups were used to identify the following resources/issues that are considered in this EA.

- Visual quality
- Cultural resources, including archaeological resources
- Terrestrial ecology, natural areas, and other significant natural features
- Threatened and endangered species
- Wetlands/riparian ecology
- Recreation
- Water quality
- Aquatic ecology
- Socioeconomics
- Navigation
- Floodplains
- Air quality

The draft EA was released for public review on November 18, 1998. A public information session was held on November 30 to solicit comments and answer questions. Approximately 50 persons attended.

1.4 Necessary Federal Permits or Licenses

No federal permits are required to develop a reservoir land management plan. To the extent possible, site-specific information on reservoir resources has been characterized in this EA, and the potential impacts on these resources were considered in making the future land use allocations. Appropriate agencies that regulate wetlands, endangered species, and historic resources have been consulted during this planning process. When specific actions, such as construction of docks, buildings, roads, walking trails, or other site-disturbing activities are proposed, additional review and appropriate permits or consultations will be required to approve specific actions. Regardless of an action to adopt the plan or continue use of the Forecast, TVA will continue to require prior review and approval of any specific actions that would have the potential to impact land and water resources or public uses.

CHAPTER 2

Alternatives, Including the Proposed Action

This chapter describes the alternatives considered for implementation of the proposed action and summarizes the environmental consequences associated with each alternative.

2.1 The Proposed Action

The proposed action is to formulate a reservoir land management plan for TVA land on Melton Hill Reservoir. This plan is intended to provide a clear statement of how TVA would manage its land in the future, based on scientific, cultural, and economic principles. This plan (see Volume II) takes into account the comments received from the general public in the East Tennessee area. The plan prepared for Melton Hill Reservoir is intended to guide TVA resource management and property administration decisions. It identifies the most suitable range of uses for 159 parcels of TVA land (including a new parcel, 73A).

2.2 Alternatives

TVA is considering two alternatives for making land use decisions for the 2,578 acres of TVA land around Melton Hill Reservoir. Under the No Action Alternative (Alternative A), TVA would continue to use the existing land Forecast to manage its lands. Under the Action Alternative (Alternative B), TVA would use the new Melton Hill Land Management Plan to guide future land use decisions.

2.2.1 No Action Alternative (Alternative A)

Under the No Action Alternative, TVA would continue to use the reservoir land Forecast. This Forecast historically has been used to guide land use decision making on all TVA land. The Forecast for Melton Hill Reservoir was developed by TVA staff in June 1966. It serves as a general guide for land use and/or development, and documents actual and prospective uses indicated for all TVA land surrounding the reservoir. When a proposal is received from an external applicant or an internal TVA organization, the proposed land use is evaluated for consistency with the Forecast. The request is then either approved or denied, based on a review of potential environmental effects and other considerations.

The Forecast designated TVA-retained lands as well as surplused lands. On Melton Hill Reservoir, land has been surplused and conveyed for various uses, including industrial, recreation, water-treatment facilities, sewer lines, pump stations, and highway rights-of-way. Under Alternative A, these land-use designations of TVA land would continue. The land which TVA has retained in fee ownership below the 800-foot contour (the maximum shoreline contour [msc]) would be controlled by outstanding landrights or rights implied from the use of the backlying land.

An explanation of the Forecast designation categories is shown in Table 2.2.1-1:

Table 2.2.1-1 Forecast Designation Definitions

Forecast Designation	Definition
Dam Reservation	*Land managed to protect the integrity of the dam and associated switchyards and power lines* – Most TVA dam reservations provide a visitor reception building that overlooks the facilities. Day use recreational activities such as picnicking, fishing, hiking, and bird watching are encouraged. Campgrounds and boat-launching facilities are often available. Generally speaking, maintenance levels and care of the facilities are higher on dam reservation land than on other areas of the reservoir. Hunting and unregulated camping are generally prohibited on the reservations.
Public Recreation	*Land set aside for use by the general public for recreational activities* – This includes informal, dispersed activities such as hunting, hiking, fishing, and primitive camping, as well as more formal activities in developed areas such as parks, boat-launching areas, and campgrounds.
Reservoir Operations (*Islands)*	*Islands in the mainstream or tributaries used for informal, dispersed recreation and natural resource management projects.*
Reservoir Operations (*Mainland)*	*Generally narrow bands of shoreland retained by TVA for flood control and other reservoir operations purposes* – Although there are no outstanding rights to construct water use facilities, TVA allowed backlying residential property owners to construct facilities on these lands until 1992. Since 1992, facilities have only been allowed on reservoir operations land in those areas where existing facilities have been permitted.
Power Transmission and Power Needs	*Land reserved for future power development or to maintain the integrity of existing power lines* – Interim wildlife enhancement projects are often implemented on these lands.
Commercial Recreation	*Land that TVA has reserved primarily for commercial use* – This use includes, but is not limited to marinas, commercial boat docks, and campgrounds. Informal, dispersed recreational activities often occur on this land as an interim use.
Industrial	*Land that TVA identified as having potential for future industrial development* – Informal, dispersed recreational activities often occur on this land as an interim use.
Navigation Safety Harbors/Landings	*Sites used for tying off commercial barge tows and recreational boats during adverse weather conditions* – Safety landings are straight stretches of shoreline fronting the commercial channel, and safety harbors are shoreline areas recessed into coves or creeks off the commercial channel.

Forecast Designation	Definition
Minor Commercial Landings	*Tracts allocated for minor commercial landings available for public or private development of small-scale barge facilities* – These are sites that can be used for transferring pulpwood, sand, gravel, and other natural resource commodities between barges and trucks. Since this use is intermittent and usually not a major activity, there will generally be no significant impact on adjacent land uses.

Table 2.2.1-2 summarizes the Forecast designation of the retained land tracts on Melton Hill Reservoir (see Appendix C). A list of individual tract numbers is provided in Appendix C and correspond to those on the Melton Hill Reservation Forecast designation map, Alternative A (Exhibit 1).

Table 2.2.1-2 Summary of Forecast Designations for Melton Hill Reservoir

Number of Occurrences	Forecast Name	Acres
1	Power Transmission System	133.9
2	Commercial Recreation	9.1
2	Dam Reservation	326.0
5	Reservoir Operations-Islands	42.6
17	Navigation Safety Harbors/Landings	148.5
18	Industrial	710.5
36	Public Recreation	839.9
58	Reservoir Operations	450.2
	Total*	2,660.7

* More sophisticated computerized equipment used today (compared to the 1960s) has resulted in a more accurate total acreage of 2,578 acres.

2.2.2 Action Alternative (Alternative B)

Alternative B, the Melton Hill Reservoir Land Management Plan, was developed using information obtained from the public, existing and newly collected field data both on land conditions and resources, and technical knowledge from TVA staff and other agencies such as TWRA and DOE.

TVA considered a wide range of possible land uses in the development of this plan. Each parcel of land was reviewed to determine its physical capability for supporting certain uses, suitability of supporting these uses, and public needs. Based on this information, the TVA Melton Hill Planning Team (see Volume II—formerly Appendix F—for list of team members) allocated land parcels to one of seven planning zones. These are described in Table 2.2.2-1. After review of comments received on the draft Environmental Assessment, one minor revision affecting 15.5 acres was made.

Under the Blended Alternative in the Shoreline Management Initiative EIS, TVA will do a shoreline categorization of the residential shoreline. This categorization is based on resource data collected from field surveys of the residential shoreline. The shoreline categorization is composed of three categories: Managed Residential, Residential Mitigation, and Shoreline Protection. A resource inventory has been conducted for

sensitive species and their potential habitats, archaeological resources, and wetlands along Melton Hill Reservoir's residential shoreline. The residential shoreline on Melton Hill Reservoir comprises 23.7 miles or 12.3 percent of the total 193.4 miles of shoreline. Approximately 0.8 percent of the residential shoreline has archaeological resources; 5.1 percent of the residential shoreline has wetland vegetation; and 11.8 percent has sensitive plant and/or animal resources present. Depending on the sensitivity of the resource, the shoreline reaches were placed in either the Residential Mitigation or Shoreline Protection categories. When these three components are mapped, the result is that approximately 68.9 percent of the residential shoreline is in Residential Mitigation category, approximately 25.8 percent of the residential shoreline is in the Managed Residential category, and 5.3 percent is in the Shoreline Protection category.

In cases where water-use facilities were previously approved by TVA in zones other than 7, Residential Access, they will be allowed to be maintained at their approved size. However, requests to expand these facilities or to construct additional facilities will not be considered.

Table 2.2.2-1 Planned Land Use Zone Definitions

Zone		Definition
1	**Non-TVA Shoreland**	Shoreland located above summer pool elevation that TVA does not own in fee or land never purchased by TVA. TVA is not allocating private or other non-TVA land. This category is provided to assist in comprehensive evaluation of potential environmental impacts of TVA's allocation decision. Non-TVA shoreline includes: • ***Flowage easement land***—e.g., privately or publicly owned land where TVA has purchased the right to flood and/or limit structures. Flowage easement land is generally purchased to a contour elevation. • ***Privately owned reservoir land***—Including, but not limited to, residential, industrial/commercial, or agricultural.
2	**TVA Project Operations**	All TVA reservoir land currently used for TVA operations and public works projects includes: • ***Land adjacent to established navigation operations***—Locks, lock operations and maintenance facilities, and the navigation workboat dock and bases. • ***Land used for TVA power projects operations***—Generation facilities, switchyards, and transmissions facilities and rights-of-way. • ***Dam reservation land***—Areas used for developed and dispersed recreation, maintenance facilities, Watershed Team offices, research areas, and visitor centers. • ***Navigation safety harbors/landings***—Sites used for tying off commercial barge tows and recreational boats during adverse weather conditions or equipment malfunctions.

Zone		Definition
2	**TVA Project Operations (Cont'd)**	• ***Navigation dayboards and beacons***—Areas with structures placed on the shoreline to facilitate navigation. • ***Public works projects***—Includes fire halls, public water intakes, and public treatment plants, etc. (These projects are placed in this category as a matter of convenience and may not relate specifically to TVA projects.) • ***Land planned for any of the above uses in the future.***
3	**Sensitive Resource Management**	Land managed for protection and enhancement of sensitive resources. Sensitive resources, as defined by TVA, include resources protected by state or federal law or executive order and other land features/natural resources TVA considers important to the area viewscape or natural environment. Natural resource activities such as hunting, wildlife observation, and camping on undeveloped sites can occur in this zone; but the overriding focus is protecting and enhancing the sensitive resource the site supports. Areas included are: • TVA-designated sites with potentially ***significant archeological resources***. • TVA lands with ***sites/structures listed on or eligible for listing on the National Register of Historic Places***. • ***Wetlands,*** i.e., aquatic bed, emergent, forested, and scrub-shrub wetlands as defined by TVA. • ***TVA land under easement, lease, or license to other agencies/individuals for resource protection purposes.*** • ***TVA land fronting land owned by other agencies/individuals*** for resource protection purposes. • ***Habitat Protection Areas***—These are areas managed by TVA to protect populations of species identified as threatened or endangered by the U.S. Fish and Wildlife Service (FWS), state-listed species, and any unusual or exemplary biological communities/geological features. • ***Ecological Study Areas***—These are designated areas that are suitable for ecological research and environmental education by a recognized authority or agency. Areas typically containing plant or animal populations of scientific interest or are of interest to an educational institution that would utilize the area. • ***Small Wild Areas***—These are areas managed by TVA or in cooperation with other public agencies or private conservation organizations to protect exceptional natural, scenic, or aesthetic qualities that can also support dispersed, low-impact types of outdoor recreation.

Zone		Definition
3	**Sensitive Resource Management (Cont'd)**	• ***River corridor with sensitive resources***—A river corridor is a linear greenspace along both streambanks of selected tributaries entering a reservoir managed for light boat access at specific sites, riverside trails, and interpretive activities. These areas will be included in Zone 3 when identified sensitive resources are present. • ***Significant scenic areas***—These are areas designated for visual protection because of their unique vistas or particularly scenic qualities. • ***Champion tree site***—These are designated by TVA as sites that contain the largest known individual tree of its species in that state. • ***Other sensitive ecological areas***—Examples of these areas include heron rookeries, nest colonies, and unique cave or karst formations. • ***Land planned for any of the above uses in the future.***
4	**Natural Resource Conservation**	Land managed for the enhancement of natural resources for human use and appreciation. Management of resources is the primary focus of this zone. Appropriate activities in this zone include hunting, timber harvest, wildlife observation, and camping on undeveloped sites. Areas included are: • ***TVA land under easement, lease, or license*** to other agencies for wildlife or forest management purposes. • ***TVA land fronting land owned by other agencies*** for wildlife or forest management purposes. • ***TVA land*** managed for wildlife or forest management purposes. • ***Informal recreation areas*** maintained for passive, dispersed recreation activities such as hunting, hiking, bird watching, photography, primitive camping, bank fishing, and picnicking. • ***Shoreline Conservation Areas***—Narrow riparian strips of vegetation between the water's edge and TVA's backlying property that are managed for wildlife, water quality, or visual qualities. • ***Wildlife Observation Areas***—Areas with unique concentrations of easily observed wildlife that are managed as public wildlife observation areas. • ***River corridor without sensitive resources present***—A river corridor is a linear greenspace along both streambanks of selected tributaries entering a reservoir managed for light boat access at specific sites, riverside trails, and interpretive activities. River corridors will be included in Zone 4 unless sensitive resources are present (see Zone 3). • ***Islands of 10 acres or less.*** • ***Land planned for any of the above uses in the future.***

Zone		Definition
5	**Industrial/ Commercial Development**	Land managed for economic development purposes. Areas included are: • ***TVA land under easement, lease, or license to other agencies/individuals*** for industrial or commercial purposes. • ***TVA land fronting land owned by other agencies/individuals*** for industrial or commercial purposes. • ***Sites planned for future industrial use.*** Types of development that can occur on this land are: • ***Business parks***—TVA waterfront land which supports industrial or commercial development. • ***Industrial access***—Access to the waterfront by backlying property owners across TVA property for water intakes, wastewater discharge, or conveyance of commodities (i.e., pipelines, rail, or road). Barge terminals are associated with industrial access corridors. • ***Barge terminal sites***—Public or private facilities used for the transfer, loading, and unloading of commodities between barges and trucks, trains, storage areas, or industrial plants. • ***Fleeting areas***—Sites used by the towing industry to switch barges between tows or barge terminals which have both off-shore and on-shore facilities. • ***Minor commercial landing***—A temporary or intermittent activity that takes place without permanent improvements to the property. These sites can be used for transferring pulpwood, sand, gravel, and other natural resource commodities between barges and trucks. (Commercial recreation uses, such as marinas and campgrounds, are included in Zone 6.)
6	**Recreation**	All reservoir land managed for concentrated, active recreation activities that require capital improvement and maintenance, including: • ***TVA land under easement, lease, or license to other agencies/individuals*** for recreational purposes. • ***TVA land fronting land owned by other agencies/individuals*** for recreational purposes. • ***TVA land developed for recreational purposes*** such as campgrounds, day use areas, etc. • ***Land planned for any of the above uses in the future.*** Types of development that can occur on this land include: • ***Commercial recreation***, e.g., marinas, boat docks, resorts, campgrounds, and golf courses.

Zone		Definition
6	**Recreation (Cont'd)**	• ***Public recreation***, e.g., local, state and federal parks, and recreation areas. • ***Greenways***—Linear parks located along natural features such as lakes or ridges, or along manmade features including abandoned railways or utility rights-of-way, which link people and resources together. • ***Water access sites***, e.g., boat ramps, courtesy piers, canoe access, fishing piers, vehicle parking areas, picnic areas, trails, toilet facilities, and information kiosks.
7	**Residential Access**	TVA-owned lands where Section 26a applications and other land use approvals for residential shoreline alterations are considered. Requests for residential shoreline alterations are considered on parcels identified in this zone where such use was previously considered and where the proposed use would not conflict with the interests of the general public. Under the Plan, residential access would be divided into three categories based on the presence and potential impacts to sensitive ecological resources such as endangered or threatened species, wetlands, and archaeological and historic sites. The categories are: (1) Shoreline Protection, where no residential alterations would be permitted; (2) Residential Shoreline Mitigation, where special analysis would be needed; and (3) Managed Residential Shoreline, where no known sensitive resources exist. Types of development/management that can occur on this land are: • ***Residential water-use facilities***, e.g., docks, piers, launching ramps/driveways, marine railways, boathouses, enclosed storage space, and nonpotable water intakes. • ***Residential access corridors***, e.g., pathways, wooden steps, walkways, or mulched paths which can include portable picnic tables and utility lines. • ***Shoreline stabilization***, e.g., bioengineering, riprap and gabions, and retaining walls. • ***Shoreline vegetation management*** on TVA-owned residential access shoreland. • ***Conservation easements*** for protection of the shoreline. • ***Other activities***, e.g., fill, excavation, grading, etc.

Within the Residential Mitigation category, site-specific impacts of each resource will be assessed during the 26a review for waterfront facilities and mitigated in accordance with the applicable regulations governing that resource. Shoreline categorized in Managed Residential category does not have any known sensitive resources. The categorization of the residential shoreline is mapped in Exhibit 3.

A basic premise of the reservoir land planning process is that land currently committed to a specific use would be allocated to that current use unless there is an overriding need to change the use. Commitments include: transfers; leases; licenses; contracts; areas with sensitive resources (see Zone 3 definition); TVA projects such as the dam reservation or power lines; outstanding landrights; or TVA-developed recreation areas. Agricultural licenses would be excluded because they are considered to be an interim use of TVA land. For planning purposes, a total of 1,178.8 acres of Melton Hill Reservoir is considered committed. Table 2.2.2-2 summarizes the allocation of committed lands on Melton Hill Reservoir. Individual committed parcels are listed in Appendix D (Table D-1).

Table 2.2.2-2 Summary of Allocation of Committed Land on Melton Hill Reservoir

Number of Occurrences	Land Use Zones	Acres
12	2 - Project Operations	294.5
25	3 - Sensitive Resource Management	700.2
5	5 - Industrial/Commercial Development	21.8
13	6 - Recreation	162.3
	(7 - Residential Access*)	-
		Total 1,178.8

*Shoreline acreage fronting residential development is not included in this table so that additional field data could be gathered, in order to categorize the shoreline for sensitive resources.

The balance of Melton Hill Reservoir land (1,395.6 acres) was examined to determine if there were better uses of the land. Field data were collected on all yet-unplanned land by technical specialists such as archaeologists, historic architects, wetland specialists, visual specialists, and biologists to identify areas containing sensitive resources.

A key planning assumption of Alternative B is that areas identified as having sensitive resources would be allocated to Zone 3, Sensitive Resource Management. However, if parcels with existing commitments (leases, licenses, contracts, etc.) contain sensitive resources, that parcel would remain zoned for the committed use. In addition, TVA review would be needed prior to future activities that could impact the identified sensitive resources.

In order to define best uses of the land, experts were asked to examine the remaining land to be planned. They were asked to rate each parcel high, medium, or low by a given set of criteria (Appendix E) and to rank the parcels as high, medium, or low depending on their customer needs. Customer needs were identified during the scoping process (see questionnaire results in Appendix B) to help determine the most suitable use for the land. TVA power organizations, navigation, natural resource stewardship and recreation, and economic development rated and ranked the parcels.

After the ranking exercise, the planning team and technical specialists met to allocate the uncommitted parcels to one of the land use zones. Using resource maps and all of the information collected during the planning process (including public input) the capability and suitability of each parcel was discussed. Allocation decisions were made by consensus.

These allocations were used to prepare the Melton Hill Reservoir Draft Land Management Plan (see Volume II—formerly Appendix F—for individual parcel zones).

The draft plan contains an explanation of the planning process, an overview of the reservoir's history and development, a description of each parcel, and maps of the land plan. Table 2.2.2-3 summarizes the number of parcels allocated to each of the six zones. The Land Use Allocation Map, Alternative B, shows the location of each parcel (Exhibit 2).

Table 2.2.2-3 Summary of Land Use Allocations

Number of Occurrences	Land Allocations	Acres
13	Zone 2 - Project Operations	294.4
58	Zone 3 - Sensitive Resource Management	1275.6
39	Zone 4 - Natural Resource Conservation	619.7
5	Zone 5 - Industrial/Commercial Development	21.8
15	Zone 6 - Recreation	216.1
29	Zone 7 - Residential Access	150.7
		Total 2,578.3

2.3 Comparison of Alternatives

Alternative B proposes to allocate 2,578 acres to six planning zones. These zones are comprised of land which, under Alternative A, have the following forecast designations, as shown in Table 2.3-1.

Table 2.3-1 Comparison of Allocations for Alternatives A and B

		Forecast Designations (Alternative A)							Undesignated		
Plan Zones (Alt. B)	Total Acres	Comm. Recr.	Dam Reserv.	Indus./ Indus. Islands	Power Trans (Hwy ROW)	Public Recr.	ResOps / Isles/ Indus.	Nav. Safety Harbor/ Landings	Pump Sta.	No Fore-cast	Totals
Zone 2	294.4	.04	248.98	11.89	2.42	2.69	1.22	5.15	1.07	20.95	294.41
Zone 3	1275.6	7.22	-	505.94	123.40	325.62	229.47	65.63	-	18.33	1275.61
Zone 4	619.7	5.82	-	86.04	4.87	358.50	72.00	57.10	-	7.99	592.32
Zone 5	21.8	-	-	14.34	-	.26	1.05	6.14	-	-	21.79
Zone 6	216.1	-	-	-	5.50	190.86	10.78	19.89	-	9.32	236.35
Zone 7	150.7	1.70	-	-	-	9.62	146.34	.14	-	-	157.80
Totals	2578.3	14.78	248.98	618.21	136.19	887.55	460.86	154.05	1.07	56.59	2578.28

The Reservoir Land Plan (Alternative B) provides better information for decision-making and consistency in reviewing customer requests; better evaluation of reservoir impacts of the decisions; better knowledge of the resource base, which includes more up-to-date and accurate information; fewer conflicts between TVA and the public, due to better communications; and a balance of all uses of TVA land.

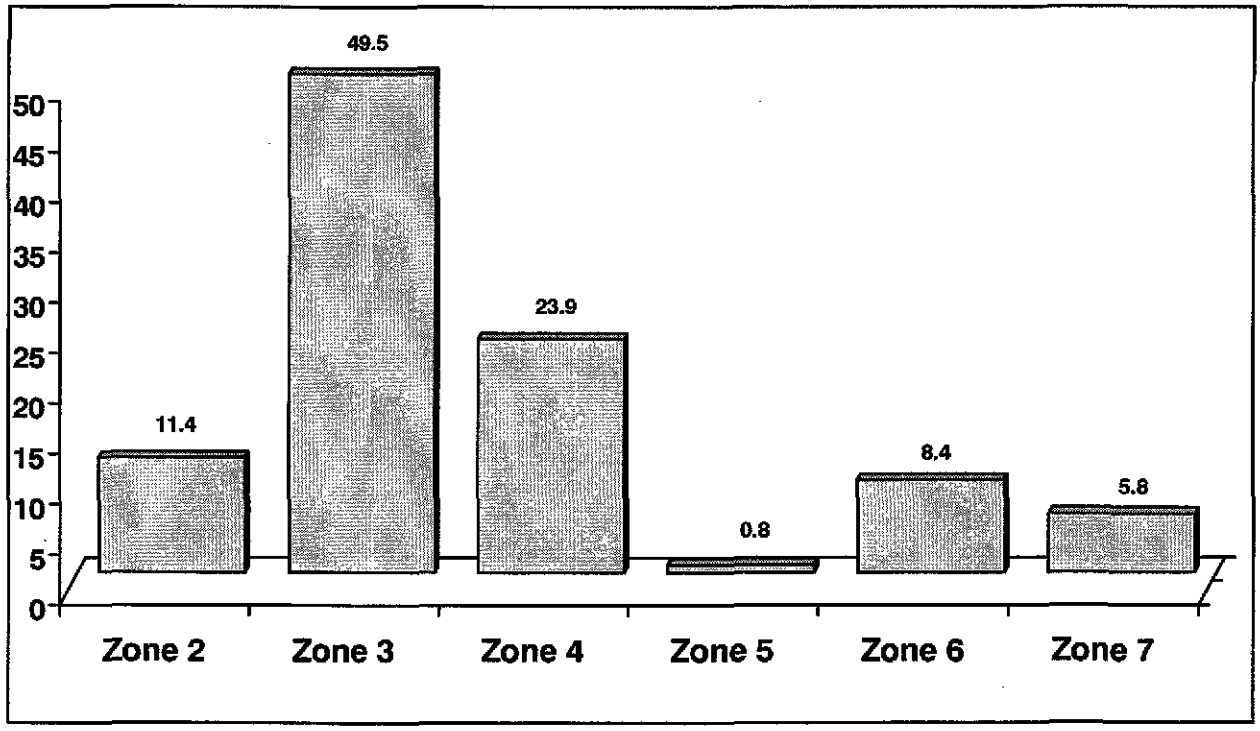

Figure 2. Melton Hill Reservoir - Alternative B - Percent of Land Allocated by Zone

Zone*	Acres	Percent
Zone 2 - TVA Project Operations	**294.4**	**11.4**
Zone 3 - Sensitive Resource Management	**1275.6**	**49.5**
Zone 4 - Natural Resource Management	**619.7**	**23.9**
Zone 5 - Industrial/Commercial Development	**21.8**	**0.8**
Zone 6 - Recreation	**216.1**	**8.4**
Zone 7 - Residential Access	**150.7**	**5.8**

*No land was allocated for Zone 1 because TVA does not own the land.

Under both alternatives, adjacent private lands in Anderson, Knox, Loudon, and Roane Counties are expected to receive continued pressure for suburban development. This would likely increase the need for protecting natural resources on TVA land. The following graph (Figure 2) reflects allocations under Alternative B.

The Forecast (Alternative A) category with the largest acreage is Public Recreation. The Public Recreation Forecast includes land that is available for dispersed informal recreational activities such as hunting, hiking, fishing, and camping, as well as areas with developed day use, camping, or boat-launching facilities. The majority of the land under the Public Recreation Forecast is allocated to Zone 4, Natural Resource

Conservation, in the Melton Hill Reservoir Land Management Plan (Alternative B). Recreation (Zone 6) can represent a large continuum of development, from minimum disturbance (such as a boat ramp or greenway) to the other extreme, including things such as marinas and resort development.

Another major change from the Forecast is the creation of the Zone 3, Sensitive Resource Management. Land containing sensitive resources (such as sensitive species, archaeological resources, significant visual resources, and wetlands) is allocated to this Zone. The resources identified for protection would be protected in the Forecast by environmental review of specific land use proposals; however, allocation of these resources to Zone 3 in the Reservoir Land Management Plan allows the protection of the sensitive resource identified to be the overriding objective for managing a particular parcel of land.

Under both Alternatives A and B, land currently committed to a specific use would be allocated to that use. Neither alternative allocates additional shoreland for Residential Access (Zone 7). Residential Access would be considered only fronting land where shoreline alterations have already been approved or areas where outstanding rights exist for such requests.

Although both alternatives allow for a wide variety of land uses, the Reservoir Land Management Plan (Alternative B) utilizes public input received during the scoping process and public information meetings. Alternative A does not emphasize conservation, since the Forecast designations do not recognize the presence of sensitive resources. The environmental review process for specific land use requests would ensure that impacts to sensitive resources be considered. By contrast, Alternative B provides enhanced protection to sensitive resources by allocating land with such resources to Zone 3, with the overriding objective of that Zone being protection of the sensitive resource. Alternative B places more emphasis on conservation, while continuing to allow public use.

2.4 The Preferred Alternative

The preferred alternative is Alternative B, since it emphasizes conservation while continuing to allow public use and provides for public involvement in the land planning process. This plan grandfathers previous land use commitments and allocates uncommitted TVA land into zones that allow for a balance of development and conservation.

Chapter 3

Affected Environment and Environmental Consequences

The existing environment affected by the proposed actions and the potential environmental consequences of each Alternative are described in this chapter.

3.1 Visual Quality

3.1.1 Affected Environment

Melton Hill Reservoir lies within the Tennessee Valley in a region which is noted for a wide variety of scenic resources. It is the only Clinch River impoundment accessible to barge and large craft traffic through navigational locks. While small in comparison to upstream Norris Reservoir (34,000 surface acres), Melton Hill Reservoir (5,700 surface acres) has a somewhat wider variety of scenery. For 20 miles upstream from the dam, the northwestern shore is almost entirely undeveloped. In contrast, another 15 miles upstream is the city of Clinton.

The land use adjacent to the 193 miles of shoreline around Melton Hill is similar to main channel reservoirs on the Tennessee River. There are industrial and recreational parks, a TVA coal-fired power plant (Bull Run), and an ever-growing residential population. Melton Hill Reservoir, like others within the TVA system, is considered by the public to be desirable for lake-oriented homes, since it provides water-recreation activities.

Melton Hill's scenic resources are divided at the Solway community, which is the reservoir's general midpoint (see Figure 1). This downstream portion of the reservoir is more lake-like with four major recreational parks, scattered residential development along the southeastern shoreline, and an almost totally undeveloped northwestern shoreline comprised of DOE land. The four park developments (two on each side of the reservoir) provide picnicking, swimming, and boating access to the lake. This portion of the reservoir offers a special scenic quality to the shoreline residents of the south shore, as their view of the opposite (north) shore is generally one of undeveloped wooded ridge land accented with views of the Cumberland Mountains in the distant background. The more scenic resources on this lower portion of Melton Hill are the wooded coves and embayments off the main channel. These generally afford quiet places for the boater to anchor through the week. Along the main channel, limestone bluffs and steep, bluff-like shoreline provide some of the more distinctive aesthetic views.

A short distance upstream of the Solway Bridge, Bull Run Coal-fired Power Plant occupies over a 2-mile stretch of the left (eastern) bank shoreline. Its 600-foot stack and numerous transmission lines become the dominant feature in the landscape. Also, Melton Lake Drive routes vehicular traffic along a 3-mile section of shoreline just upstream of Bull Run Power Plant on the opposite (western) lake bank. While views from the reservoir consist of subdivisions, a few spotted commercial developments, and passing vehicular traffic, these developments do not detract from the generally pleasant views of the reservoir. A strand of low-lying, vegetated islands lines most of the

eastern shoreline opposite Melton Lake Drive in the vicinity of the Oak Ridge Marina, providing a natural shoreline backdrop to this section of the reservoir.

Upstream of this area, both banks of the lake have become predominantly residential. Between the cities of Oak Ridge and Clinton, the reservoir narrows as it passes the ever-increasing number of homesites with their associated docks and water-use facilities. The upper reaches of reservoir above the city of Clinton continue to narrow as they pass industrial park developments on either shoreline. One of the older, upscale residential communities in the city of Clinton is located along the northern shoreline opposite one of these newer industrial developments. Along the southwest shore upstream from Clinton are limestone bluffs and an area of steep, bluff-like shoreline which provide a distinctive aesthetic view. Upstream of the Eagle Bend Fish Hatchery, above the Highway 61 bridge, water levels quickly become regulated by flows from Norris Dam as the reservoir returns to river.

Actions by other agencies and individuals have also affected the aesthetics of Melton Hill Reservoir in recent years. For example, the recent improvement to four lanes of Tennessee Highway 61 between Oak Ridge and Clinton has introduced large riprapped road cuts into the shoreline environment.

3.1.2 Environmental Consequences

The majority of the comments made on the scoping survey (see Appendix B) were in support of aesthetics and scenic beauty, limiting or opposing future development, natural resources, public land values, and control of trash and litter. All of these comments could be interpreted to describe an appreciation of and desire to encourage the preservation of aesthetics and the visual resource.

DOE owns and controls the land use activities behind 53 miles of the northern shoreline of the lower reservoir. This area is an important aesthetic resource of Melton Hill Reservoir (Section 3.1.1) and amounts to 27 percent of the total shoreline but is not managed by TVA. The selection of either alternative would have no effect on this part of the reservoir.

Proposed actions such as the Knoxville Beltway and the continued residential subdivisions adjacent to TVA parcels on Melton Hill Lake would continue to affect aesthetics. The Knoxville Beltway could potentially affect visual resources in the Hickory Creek, Beaver Creek, and Bull Run Creek embayments. In addition, a proposed office building at Oak Ridge Municipal Park could affect views from the lake. These additional non-TVA activities, however, are peripheral to the reservoir and are unlikely to have important visual impacts.

No Action Alternative (Alternative A)

Under the current Forecast, there is not a designation for scenic/aesthetic protection of TVA-held tracts. If this alternative remains in place, there would continue to be no established plan that would allocate certain lands for visual resource management. A marginal decline in scenic/aesthetic resource would be expected as residential and commercial development increases with the population.

The environmental evaluation that TVA would continue to conduct prior to approval of land use development or activities would consider resultant visual impacts. This process may prevent some losses in visual quality or may enact mitigative measures that reduce scenic impacts. However, with a case-by-case review, activities that may have negative visual impacts have been allowed in the past. For example, long zigzagging sets of steps have been constructed on bluff faces, and various water-use facilities have been allowed that interrupt the view of these would-be scenic resources. Also, areas like the narrow entry passage into Beaver Creek from the main channel are considered for water-use facility development under the Forecast and current implied landrights. As a result, negative visual impacts are possible from continued reliance on this alternative.

Action Alternative (Alternative B)

The Action Alternative generally would have a beneficial effect on preserving visual resources. Analysis of each retained parcel of land on Melton Hill Reservoir was conducted as part of the plan. Land with distinctive visual characteristics and parcels that possess outstanding scenic qualities (10 parcels in all) were placed in a Sensitive Resource Management or Natural Resource Conservation Zone (Zones 3 or 4, respectively). Activities such as recreational hiking, picnicking, bank fishing, and some selective forest management activities could take place under these categories of use. Also, some developmental changes could take place under these management designations, as long as their placement and appearance are subordinate to the general visual characteristics.

Specific areas that would benefit under this alternative would be the narrow, bluff-like sections of shoreline backed by private property where access to the water had been traditionally granted. Also, if the Action Alternative is adopted, areas like the narrow entry passage into Beaver Creek from the main channel would be designated a Sensitive Resource Management Zone and would not be at risk to water-use facility development. Additionally, timber management areas would be more clearly defined so the long-range views of certain landscapes could be accurately predicted and visually appealing.

Adoption of this alternative would establish some protection of visual resources on 73 percent of the TVA lands considered and on 80 percent (143 miles) of the shoreline. This alternative also takes into account the public's desire to protect scenic/aesthetic values around Melton Hill Reservoir. Consequently, implementation of the Action Alternative would preserve scenic and aesthetic resources on Melton Hill Reservoir.

Conclusion

The No Action Alternative, Alternative A, could result in negative impacts on visual resources. The Action Alternative, Alternative B, with its land management plan, would have beneficial effects for the preservation of scenic/aesthetics on Melton Hill Reservoir. Currently, Melton Hill Reservoir has 23.7 miles of shoreline available for residential access. In addition, under TVA's SMI shoreline development standards, the size of docks would be limited, minimizing visual impacts to the reservoir. TVA encourages conservation easements to protect resources and scenic values along the

shoreline. These conservation easements would help lessen the cumulative visual impact on Melton Hill Reservoir.

3.2 Cultural Resources

3.2.1 Affected Environment

For at least 12,000 years, the Tennessee River Valley has been an area for intense human occupation. In the upper East Tennessee area, archaeological investigations have demonstrated that Tennessee and the eastern Ridge and Valley region were the setting for each one of these cultural/temporal traditions, from the Paleo-Indian (11,000-8000 BC), the Archaic (8000-1200 BC), the Woodland (1200 BC-1000 AD), the Mississippian (1000-1500 AD), to the Protohistoric-Contact Period (1500-1750 AD). In addition, historic era cultural traditions have included the Cherokee (1700 AD - present), European and African-American (1750 AD - present) occupations. Moreover, these investigations have provided additional details about the changing environments, shifting subsistence strategies and settlement patterns, and variations in the cultural material associated with each major period.

TVA conducted an archaeological survey (Phase I level) of approximately 2,578 acres of TVA fee land located above summer pool on Melton Hill Reservoir. An archaeological survey (Phase I level) was conducted to identify archaeological resources. The methods used in this survey to reveal the dimensions and possible cultural affiliation of the site were surface and subsurface testing. Both prehistoric and historic sites were identified during the survey. The land was divided into 150 parcels ranging in size from 250 acres to less than a hundredth of an acre. The investigation determined that 98 historic properties were present within 56 parcels. A historic property was defined as an area with any grouping of five or more nonmodern historic or prehistoric artifacts. The presence of a historic property is indicated in the parcel descriptions in the accompanying land management plan (Volume II—formerly Appendix F).

TVA surveyed areas adjacent to TVA parcels for historic structures which are potentially eligible for listing on the National Register of Historic Places (NRHP). Those within the Area of Potential Effect are located on maps. In addition, historic structures are located near Melton Hill Reservoir in Knox County. These include the Gallaher Ferry House (1870) and Williams Bend (1875), associated with early Clinch River settlement (Knoxville-Knox County Metropolitan Planning Commission, 1996).

3.2.2 Environmental Consequences

Under both alternatives, historic properties (*historic property* means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the NRHP) located on federally owned lands are protected by the National Historic Preservation Act (NHPA), Archaeological Resources Protection Act (ARPA), and the Native American Graves Protection and Repatriation Act (NAGPRA). The NHPA Section 106 review process includes steps for identifying and evaluating historic properties, assessing effects of an undertaking on them, and consultation about ways to avoid, reduce, minimize, or otherwise address any possible adverse effects.

In undertakings (*undertaking* means any project, activity, or program, and any of its elements, that has the potential to have an effect on a historic property and that is under the direct or indirect jurisdiction of a federal agency or is licensed or assisted by a federal agency) that might effect historic properties within the area of potential effects (*area of potential effects* means the geographic area or areas within which an undertaking may cause changes in the character or use of historic properties) require TVA and the applicant to fulfill the Section 106 regulatory compliance process regarding the identification, evaluation, and treatment of historic properties.

No Action Alternative (Alternative A)

Most of the cultural resources identified by the archaeological survey occur on parcels of land currently designated for public recreation under the Forecast. Public recreation has a broad definition and may occur in many forms. Dispersed recreational activities such as fishing, camping, and hiking would have little or no impact on the historic properties. However, development of a campground, parking lot, or a launching ramp could have an impact on these properties. As stated previously, all soil-disturbing activities would be reviewed by TVA for compliance with the requirements of the NHPA and ARPA. Under the existing approach, certain activities may be approved, mitigated, or denied, according to the significance of the historic properties. Known historic properties would continue to be conserved.

Action Alternative (Alternative B)

In the Action Alternative, planned land is allocated into seven land use zones (see Table 2.2.2-1 for definitions). The process has been beneficial for protecting cultural resources, because the survey and analysis have provided new information about cultural resources on specific parcels of land. Known cultural resources are mostly present in Zone 3 (Sensitive Resource Management areas) but are also located in Zones 2, 4, 6, and 7. Zones 3 and 4 include land managed for conservation, enhancement of sensitive resources, and/or natural resources for human appreciation. Zones 3 and 4, which comprise 74 percent of the Melton Hill Reservoir lands being planned, include land managed for the protection of cultural resources. Further, the plan would minimize future impacts on cultural resources, by allowing for the concentration of future residential access in previously disturbed areas. Thus, under the Action Alternative, most lands with cultural resources are specifically allocated for uses compatible with cultural resource protection.

Presently, two undertakings are currently proposed under Alternative B that might affect historic properties on or near Melton Hill Reservoir. These are the construction of the Knoxville Beltway, included in Parcel 89, and the proposed expansion of Carden Farm Industrial Park, which would affect a portion of Parcel 146's historic resources. If public use facilities, such as a trail, or private facilities, such as a residential shoreline facility, are proposed for any of these parcels, further studies would be done to determine the resources and eligibility for inclusion in the NRHP, prior to TVA approval of the undertaking.

Conclusion

Both Alternatives A and B would be subject to the NHPA (Section 106 and Section 110), ARPA, and the NAGPRA. However, under the action alternative, land is allocated for uses more compatible with a cultural resources management regime focused on the conservation and protection of the historic properties, as set forth in the Section 110 guidelines. Review for applicability of these acts would take place for any activities that have the potential to affect historic resources.

3.3 Terrestrial Ecology

3.3.1 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). Melton Hill Reservoir is bordered along much of its northwest shoreline by the DOE Oak Ridge Reservation, much of which has been maintained in a near natural condition since it was acquired in 1942. The city of Oak Ridge also borders much of the northern shore of the reservoir. Knox and Anderson Counties lie along much of the southern and eastern shorelines of the reservoir, while the city of Clinton is adjacent to a section of the more riverine upper reservoir area. The nonmunicipal and nongovernmental-owned land base surrounding the reservoir is a mosaic of residential and commercial development, agricultural use, and forest land.

In the past, shoreline resources along Melton Hill reservoir were affected by the construction of roads and paved trails adjacent to the shoreline, such as greenway development along Melton Lake Drive in 1998 and the improvement to four lanes of Tennessee Highway 61 between Oak Ridge and Clinton in 1997. Industrial parks have been developed at Eagle Bend and Carden Farm in Clinton. In addition, numerous subdivisions have been built in Knox and Anderson Counties in recent years, including the sale of former DOE lands for residential subdivisions near the intersection of State Highway 170 (Edgemoor Road) and Melton Lake Drive.

The 2,578 acres of TVA fee land surrounding Melton Hill Reservoir can be divided into three broad community types: (1) Forest Lands; (2) Managed and Unmanaged Open Lands; and (3) Wetland/Riparian Areas. Inventoried forest stands on TVA lands include the following forest types:

- Upland hardwood (441 acres/54 percent)
- Mixed pine/red cedar/hardwood (198 acres/24 percent)
- Mixed pine/hardwood (90 acres/11 percent)
- Shortleaf pine (37 acres/5 percent)
- Mixed pine (23 acres/3 percent)
- Loblolly pine plantations (13 acres/2 percent)
- Virginia pine (5 acres/1 percent)

The USDA Forest Service's 1989 inventory of their East Tennessee Unit found area timberlands in a generally desirable condition. The stable timberland base is

supporting a maturing forest that is increasing in volume and growing at three times the rate of depletion, although sawtimber quality is declining (May and Vissage, 1989).

Managed open lands on Melton Hill Reservoir include approximately 400 acres of agricultural licenses for hay or pasture. In addition to supporting domestic livestock, some of these parcels are cooperatively managed to provide browse for resident Canada geese. Outside of the Prescribed Forest Stands and Managed Open Lands are large amounts of unmanaged forest stands and open lands lying in narrow strips along the reservoir shoreline. Included are old fields in various stages of succession, and a forested riparian (lakeside) edge. The wetland communities found on Melton Hill properties make up the smallest percentage of the community types considered and are addressed in Section 3.5.

These upland forested and open-land community types provide a broad range of habitats which are capable of supporting a wide array of terrestrial wildlife species. Mammals commonly found in these habitats include gray squirrel, white-tailed deer, woodchuck, and white-footed mice. Bird species using these habitats throughout the year include eastern wild turkey, woodpeckers, eastern bluebirds, song sparrows, and northern cardinals. Migrant neotropical birds include yellow-billed cuckoos, red-eyed vireos, yellow-throated warblers, and indigo buntings. Eastern box turtles, black rat snakes, and five-lined skinks are common reptile species utilizing these habitats. Appendix L lists by community type and occurrence many of the species known to utilize TVA lands on Melton Hill Reservoir.

3.3.2 Environmental Consequences

Historically, TVA's resource management activities have been planned and implemented in the last 16 years as a means of demonstrating environmentally acceptable and cost-effective strategies for managing publicly owned natural resources. The majority of these activities occurred on mainstream TVA reservoirs, which have been subjected to a land planning process. Most lands were thus allocated to specific categories based on technical data and public input. This long-term allocation of certain lands to natural resource uses (i.e., wildlife and forest management) has allowed TVA to invest time and money in some parcels to maintain and enhance biological diversity, protect sensitive wildlife species, and provide public use and enjoyment of the terrestrial environment.

Most tributary reservoirs with limited amounts of land, such as Melton Hill Reservoir, have received little past resource management attention because the wide variety of permissible uses that could occur within broad forecast categories inhibited long-term natural resource management. One exception on Melton Hill is approximately 400 acres of agricultural land that is licensed for agricultural use. In recent years, several of these parcels have been managed to provide browse for resident Canada geese and other resident wildlife species. TVA has also taken action to promote riparian vegetation establishment which provides wildlife habitat, minimizes agricultural impacts, protects water quality, and minimizes erosion.

No Action Alternative (Alternative A)

Under the No Action Alternative (assuming no major changes in land use patterns occur) forested areas on TVA lands would remain forested and continue to mature with forest wildlife species remaining relatively stable at current levels. As old fields and shrub areas continue to revert to forest, there will be a decrease in wildlife species dependent on these habitat types and an increase in forest wildlife species. TVA open lands licensed for hay crops or livestock grazing and the wildlife species using them would likely remain unchanged. Agricultural areas are considered "interim use" under the Forecast (No Action Alternative) and may be canceled at any time, while areas managed for public access (i.e., dam reservations) can increase or decrease with TVA budget fluctuations.

Any major changes in use patterns under the Forecast could create a corresponding change in vegetation and wildlife utilizing the affected tracts of land. For example, a change in Parcels 10 and 11 from their current use for informal recreation (i.e., hiking, camping, wildlife viewing, hunting, etc.) to recreation (i.e., formal camping, golf course, etc.) would create a major shift in vegetation and associated wildlife on the sites. However, these types of impacts would be localized and negligible on a regional or subregional basis.

Action Alternative (Alternative B)

The Action Alternative allocates 110 parcels of TVA land totaling 2,189.7 acres within the categories of TVA Project Operations (Zone 2), Sensitive Resource Management (Zone 3), and Natural Resource Conservation (Zone 4). These three categories comprise approximately 85 percent of TVA land on Melton Hill Reservoir. The management of these parcels under the Action Alternative would be guided by written unit management plans, developed and reviewed with public input, that would provide for a long-term management strategy for natural resource management. The following types of activities could occur in a given unit, following site-specific environmental review:

- Vegetation management, including forest management, to improve the diversity of tree species and sizes, to encourage growth and maturation of fruit and nut-producing trees, to develop wildlife openings, and to protect snags and wildlife nesting cavities.
- Open land use to provide a diversity of vegetation, ranging from planted, warm-season, native grasses to old fields and shrub edges.
- Wetland management to protect and/or enhance the hydrology, soils, and vegetation, as well as to improve overall functions and values.
- Riparian management to allow the natural development of native vegetation or restoration of riparian vegetation through soil bioengineering.
- Hunting and fishing.

TVA has allocated lands to Zones 2, 3, and 4 based on the resource inventories conducted for the Melton Hill Land Management Plan. As a result, the above types of management activities could occur without negative impacts to terrestrial ecological resources on these parcels.

The remaining 15.1 percent of TVA land on Melton Hill is allocated to Zone 5, (Industrial/Commercial), Zone 6 (Recreation), and Zone 7 (Residential Access). Zone 7 is further allocated into shoreline protection, residential mitigation, and managed residential. Within Zone 7, these categories for review of private water-use facilities would ensure that impacts to terrestrial ecological resources would be negligible. The classification of a parcel into Zone 6 is an indication that sensitive terrestrial resources did not exist on the parcel. In areas where resources were identified in previously committed parcels, TVA will evaluate impacts of any proposed actions. Finally, there are no current proposals that would lead to development of the DOE flowage easement tracts, suggesting that these parcels would generally remain in their current habitat conditions.

The general mix of forests and open lands in counties surrounding Melton Hill Reservoir is expected to remain unchanged in the near future, with the possible exception of increased subdivision and road development. The southern route of the proposed Knoxville Beltway would directly impact reservoir parcels along Hickory Creek and Bull Run Creek, which have been allocated to Zones 3 and 4. Other highway projects, along with any growth-inducing impacts, would affect tributary streams of Melton Hill Reservoir. Potential development of office parks along Pellissippi Parkway and at Oak Ridge Municipal Park at Emory Valley Road and Melton Hill Road would also indirectly affect Melton Hill resources.

Privately owned forests and open land are therefore likely to be subject to increased development pressure in the surrounding area. By maintaining more than three-fourths of TVA lands in forested and open land parcels, implementation of Alternative B could offset some negative effects of development and fragmentation on nearby private lands. However, because of the small acreage of TVA property in the region, TVA's choice of an alternative for management of its reservoir lands would be unlikely to influence regional trends in forest fragmentation. Overall, any negative natural resource management impacts would be temporary and negligible on a regional basis. Selection of the Action Alternative would have a beneficial effect on the terrestrial ecology on TVA lands and in the region.

Conclusion

Following the adoption of Alternative A (No Action), some land use actions could result in substantial impacts to terrestrial ecological resources on a localized basis. Alternative B (Action Alternative) would provide for enhanced management and protection of terrestrial ecological resources on Melton Hill Reservoir. This would result from a longer commitment of certain land parcels to specific land use designations such as Sensitive Resource Management and Natural Resource Conservation. Also, the subsequent development of unit management plans would maintain and enhance natural biological diversity on these parcels.

3.4 Threatened and Endangered Species

TVA Regional Natural Heritage databases and several other sources were utilized to determine the presence of state- and/or federally listed species on TVA lands adjacent to Melton Hill Reservoir. Additional sources of information include surveys by Awl et al. (1996), Mitchell et al. (1996), and Pounds (1996). Information from the Oak Ridge

Reservation is considered important because much of the shoreline of Melton Hill Reservoir is within this reservation. Lists were compiled of reported occurrences of species with state or federal status from parcels being planned on Melton Hill Reservoir, and species with state or federal status potentially occurring on these parcels were identified, based on known occurrences within 10 miles of Melton Hill Reservoir.

Field inventories were conducted on uncommitted land parcels where information about threatened and endangered species was lacking or incomplete. These uncommitted land parcels had not been surveyed under the current Forecast, and all of these parcels (Volume II—formerly Appendix F, Land Management Plan) were visited during the field inventory, mostly in association with botanical surveys.

3.4.1 Plants

3.4.1.1 Affected Environment

Before the recent field survey, the TVA database indicated 10 state-listed plant occurrences (6 species) from the parcels being planned. During field inventories, areas which appeared to be suitable habitat for listed plants were surveyed, until a listed plant was found or it appeared that none were present. Several parcels contained more than one listed plant species.

Forty-three new occurrences (13 species) of state-listed plants were found during the survey. Presently, 53 state-listed plant occurrences (15 species) are reported from the Melton Hill parcels. No federally listed species of plants are known from the area, but 4 of the 15 state-listed species were previously under consideration for federal listing. These species are identified as species of management concern (SMC) in Appendix H and grouped by habitat. The number of occurrences or reported occurrences (not verified in recent TVA surveys) in these parcels is given last. Definitions of protective status are given in Appendix I.

Additionally, 18 state-listed species are reported to occur within 10 miles of the project lands. Although these species were searched for during the field inventory, they were not found on the TVA parcels. These species are listed in Appendix J.

3.4.1.2 Environmental Consequences

No Action Alternative (Alternative A)

Under the No Action Alternative, use of TVA land on Melton Hill Reservoir would continue to be based on the Forecast. This method does not currently include any areas reserved primarily for protection of natural resources. There are currently 53 reported occurrences of state-listed plants on the subject parcels. Known areas supporting these occurrences are found in parcels with forecast uses designated as follows: 14 habitat areas in reservoir operations, 10 habitat areas in public recreation, 4 habitat areas in industrial use, and 1 habitat area in commercial recreation.

If the Forecast continues to be used, impacts on state-listed threatened and endangered plants would be assessed during site-specific reviews. Each proposed land use would be reviewed, and its anticipated impacts to existing vegetation, including rare plants, would be evaluated. Some Forecast uses would likely be modified, based on the environmental review process. However, the review process would ensure that impacts to state-listed plants would be negligible.

Action Alternative (Alternative B)

The Action Alternative would provide protective status for 26 areas where there are 42 listed plant occurrences. These areas are in Zone 3 under the Land Management Plan, and the locations are identified in Appendix K. In Zone 3 the overriding focus is protecting and enhancing the sensitive resource the site supports (see Section 2.2.2). In addition, four more habitat areas, with nine occurrences, are in areas that have previously been committed to uses not compatible with Zone 3 designation. Two of these habitat areas (Parcels 2 and 31), have five occurrences in lands committed to existing Residential Access (Zone 7). Another two habitat areas (Parcels 91 and 102) have four occurrences and are in Recreation (Zone 6) and Natural Resource Conservation (Zone 4). As activities are proposed in these previously committed parcels, TVA will evaluate the impacts of the proposed actions on biodiversity, including state-listed species. If Alternative B is implemented with the Land Management Plan, 73 percent of the land which contains most of the listed plants would be allocated to the Sensitive Resource Management or Natural Resource Conservation Zones (Zones 3 and 4, respectively). Consequently, the impacts on state-listed plants would likely be negligible.

Conclusion

Under either alternative, individual land use proposals would be reviewed under the National Environmental Policy Act (NEPA) to determine potential effects on plant species. These activities would be approved, denied, or approved subject to modification of the activity to reduce potential environmental effects. Also, both alternatives would use the plant survey information. Under Alternative A, this new information identifying the types and location of listed plants would do much to alleviate the situation of unknown listed plant occurrences which can occur with the continued use of the Forecast. Consequently, if left in place, the Forecast may have a negligible effect on threatened and endangered plants.

If Alternative B is implemented, 74 percent of the land which contains most of the listed plants would be allocated to Zones 3 and 4 (Sensitive Resource Management and Natural Resource Conservation, respectively) and would be better protected. Therefore, Alternative B would have a beneficial effect for listed plants and is preferred over Alternative A.

3.4.2 Animals

3.4.2.1 Affected Environment

TVA Regional Natural Heritage databases indicate the presence of one federally threatened mammal and one federally-threatened bird, a state-listed bird, one rare amphibian, and five sensitive ecological areas (Appendix L). Five sensitive ecological areas were identified on Melton Hill Reservoir parcels, including two caves, two heron colonies (heronries), and one colony of bats (Appendix L). A small cave was discovered just upstream from the mouth of Beaver Creek. A second cave was found in Clinton on a TVA parcel just upstream from Clinton Island. Two small great blue heron (*Ardea herodias*) colonies (heronries) are located on Melton Hill Reservoir. One heronry is located on a small island near Bull Run Coal-fired Power Plant. A second heronry is located at Eagle Bend Hatchery, owned by TWRA. A small colony of bats, suspected to be big brown bats (*Eptesicus fuscus*), was located within expansion joints of a bridge on Henderson Road, which crosses the Bull Run Creek embayment on Melton Hill Reservoir.

Due to the variety of habitats found on TVA and non-TVA lands surrounding Melton Hill Reservoir, numerous state and federally protected species occurring nearby on non-TVA lands could potentially be present on TVA Land Planning parcels. TVA Regional Natural Heritage database indicates records for many species within a 10-mile radius of Melton Hill Reservoir (Appendix M). In addition, because habitats on TVA lands on Melton Hill Reservoir are similar to those on Oak Ridge Reservation, rare terrestrial animals observed on Oak Ridge Reservation (Mitchell et al., 1996) may likewise be found on Melton Hill Reservoir parcels.

3.4.2.2 Environmental Consequences

No Action Alternative (Alternative A) (Forecast Map)

Past and current decisions regarding use and development of TVA lands adjacent to Melton Hill Reservoir are based upon the Forecast (Section 2.2.1). Under the Forecast, there is no category specifically designated to protect sensitive terrestrial animal species, sensitive ecological areas, or specialized habitats identified on land parcels. However, existing environmental review procedures, including compliance with the Endangered Species Act, assure that TVA actions would not likely adversely affect the habitat of rare species. However, there is some potential for fragmentation of the resource which, when given the dynamic characteristics of most animals, could result in cumulative loss of habitat over time. Thus, while TVA would protect sensitive species during individual reviews, there is some potential for indirect or cumulative impacts under the No Action Alternative.

Action Alternative (Alternative B)

Under the Land Planning Allocation system, specific land use categories (i.e., Sensitive Resource Management, Zone 3, and Natural Resources Conservation, Zone 4; Section 2.2.2) have been designated and defined to protect sensitive terrestrial animals, their habitats, and sensitive ecological areas. Under this system, listed terrestrial animals

and sensitive ecological areas known from Melton Hill Reservoir parcels (Appendix L) are placed within Sensitive Resource Management zones and afforded protection from competing land uses. Elements such as nesting osprey, caves, and heronries are given buffer zones to protect them from encroachment due to commercial or shoreline development.

Federally listed species such as the bald eagle would benefit from Alternative B. An inventory conducted by TVA on Melton Hill Reservoir in 1996 indicated the presence of habitat considered suitable for use by bald eagles as either winter roosting habitat or possible nesting sites at five locations (Appendix L). The criteria used to characterize this habitat as suitable were the presence of mature, hardwood woodlands and the absence of human development or disturbance. Under the Land Planning Allocation system, one of these sites would receive protection by falling within a Sensitive Resource Management Zone, and a second falls within a Natural Resource Conservation Zone. Two additional locations receive partial protection, as two-thirds of one site falls within a Sensitive Resources Management Zone and one-half of the other falls within a Natural Resource Conservation Zone. The final location falls almost completely within two Residential Access Zones. TVA would place this site within a Shoreline Protection Zone. However, the site could be impacted by development on private land adjacent to the TVA parcel.

Likewise, Alternative B protects several large areas containing a variety of habitats (Appendix N) including forests, open fields, and wetlands that provide suitable habitat for other rare species, such as Indiana bats, gray bats, and numerous state-listed mammals, birds, amphibians, and reptiles. Large lowland areas, protected due to cultural concerns, may also protect many of these species. Therefore, Alternative B would afford these species and/or habitats far greater protection than the current Forecast. Additionally, quality of habitats can vary over time, causing areas currently considered as marginal—and possibly not protected—to improve in quality. The NEPA process associated with future projects will determine if such sites have been inhabited by any state- or federally listed species.

Even though these species would be protected on TVA lands and waters, there is potential for habitat impacts through the activities of individuals and other agencies along the Melton Hill Reservoir area. In addition to continued development of residential subdivisions in Knox and Anderson Counties, there are potential habitat impacts through highway construction along the southern and eastern shoreline of the reservoir (proposed Knoxville Beltway, proposed widening of Tennessee 61 between Clinton and Norris), as well as through county road and bridge construction projects on reservoir embayments and tributary streams.

3.4.3 Aquatic Animals

3.4.3.1 Affected Environment

Analysis of the TVA Regional Natural Heritage databases indicated that two state-listed fish species are known from areas adjacent to Melton Hill Reservoir properties.

- Blue sucker (*Cycleptus elongatus*) - Listed as Threatened by the state of Tennessee, blue suckers are found in the main channel and larger tributaries of the Tennessee basin. They are found in current-swept, deep areas with relatively silt-free substrates of sand, gravel, or rock. Blue suckers make upstream spawning migrations in early spring. They have been found on several occasions near CRM 40, although they have not been present in recent TVA surveys near this locality.

- Highfin carpsucker (*Carpiodes velifer*) - Listed as In Need of Management by the state of Tennessee, highfin carpsuckers historically occurred in medium-sized to large rivers throughout the Tennessee River system. They are apparently currently restricted to areas where there is low turbidity and silt-free gravel substrates. They have been collected near CRM 33 but have not been present in recent TVA surveys near this locality.

There are historical records of several federally listed mussel species which existed in the reservoir area prior to impoundment but are unlikely to occur in the habitat presently available in the pool area. There is also a historical record of a state-listed fish species from a small tributary of the Clinch River in the vicinity of Clinton. The six endangered mussel species once known from this part of the river are the dromedary pearlymussel (*Dromus dromas)*, shiny pigtoe pearlymussel (*Fusconaia cor)*, cracking pearlymussel (*Hemistena lata)*, pink mucket (*Lampsilis abrupta)*, white wartyback (*Plethobasus cicatricosus)*, and orange-foot pearlymussel (*Plethobasus cooperianus)*. The Tennessee dace (*Phoxinus tennesseensis)*, listed as In Need of Management by the state of Tennessee, is represented by historical records and is from small Clinch River tributaries in the vicinity of Clinton.

3.4.3.2 Environmental Consequences

No Action Alternative (Alternative A)

Under the Forecast, there is no category specifically designated to protect sensitive aquatic animal species or specialized habitats identified on land parcels. Existing environmental review procedures, including compliance with the Endangered Species Act, would ensure that TVA actions would not likely adversely affect the habitat of protected or rare species. Although TVA would protect sensitive species during individual reviews, there is some potential for indirect or cumulative impacts under the No Action Alternative. Actions of particular concern are those which might increase erosion and siltation, thereby adversely impacting the habitat of sensitive species like the blue sucker and highfin carpsucker.

Action Alternative (Alternative B)

Although no parcels were identified specifically to protect habitats necessary for state or federally listed aquatic species, adoption of Alternative B would afford protection to several large areas containing wetlands and other sensitive terrestrial habitats. Many of these areas will act as riparian buffer zones and thus will have an indirect but positive effect on aquatic habitat quality. Also, large lowland areas protected for cultural concerns may provide additional protection. Therefore, Alternative B would afford these species and their habitat greater protection than the current Forecast.

3.5 Wetlands/Riparian Ecology

3.5.1 Affected Environment

Executive Order 11990 directs federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. *Wetlands* are defined by *TVA Environmental Review Procedures* as:

> Those areas inundated by surface or groundwater with a frequency sufficient to support, and under normal circumstance, do or would support a prevalence of vegetation or aquatic life that requires saturated or seasonably saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, mud flats, and natural ponds. (TVA, 1983)

Wetlands are typically transitional ecosystems between terrestrial and aquatic communities. In the Ridge and Valley province, lower slope/terraced lands and floodplains represent a small percentage of the landscape relative to the uplands, mainly due to the geology of the region (Martin, 1989). Wetlands were substantially more widespread prior to impoundments on the Tennessee River and its tributaries (Martin, 1989). TVA's impoundments inundated the previous riverine and upslope habitats, creating new wetland areas, as well as many miles of terrestrial shoreline riparian habitat (Amundsen, 1994).

Wetlands along TVA's reservoirs tend to be diverse and highly productive components of the overall reservoir ecosystem and are considered the normal circumstance under current reservoir operation scenarios. Wetlands provide habitat for many wildlife species, serve as shoreline stabilization zones, support rare plant species, aid in flood control, and contribute to improved water quality.

Melton Hill Reservoir property supports approximately 50 acres of wetlands, found in over 50 locations scattered along the length of the system. Although comprising only 2 percent of the TVA-retained property, wetlands are important because of the ecological functions and values they provide. A variety of wetland types are present, including emergent, scrub/shrub, forested, and aquatic bed as described by Cowardin et al. (1979). Common vegetation associated with these wetlands includes common cattail, *lizard's tail, soft rush,* soft-stem bulrush, various sedges, smartweed, buttonbush, lead bush, black willow, silky dogwood, brookside alder, red maple, green ash, and sycamore.

In addition to supporting plant community diversity, Melton Hill wetlands provide habitat for a variety of waterfowl, wading bird, songbird, amphibian, reptile, and mammal species. Common waterfowl/wetland birds using these habitats for feeding areas, resting cover, and/or breeding areas include the wood duck, Canada goose, mallard, American coot, sora, killdeer, common snipe, and American woodcock. Common wading birds include the great blue heron, green-backed heron, and black-crowned night heron. Songbirds include the red-winged blackbird, swamp sparrow, common yellowthroat, and yellow warbler. Amphibians include bullfrog, green frog, western

chorus frog, American toad, and dusky salamander. Common reptiles include the northern water snake, snapping turtle, and painted turtle. Mammals known to use wetland and riparian areas include muskrat, mink, and beaver. Additional species may be found in Appendix G.

Butcher Bottoms (Parcel 98 and portions of 99) is a particularly important area containing approximately 20 acres of diverse wetland habitats. A mosaic of forested, scrub-shrub, and emergent wetlands, with cooperatively managed hayfields interspersed, this area provides high quality habitat for numerous wildlife species. Additional wetland functions at this site include shoreline stabilization, water quality, plant community diversity, and landscape diversity. Values associated with these functions include wildlife observation and study, hunting, and visual aesthetics.

Another important wetland area is Upper Bull Run Creek, which includes all or portions of Parcels 86, 87, 88, and 89. This is an extensive complex of emergent, scrub-shrub, and forested wetlands associated with the upper reaches of Bull Run Creek. These wetlands provide all of the aforementioned functions and values, in addition to providing habitat for a rare plant, the Southern rein orchid, listed as Special Concern in the state of Tennessee.

3.5.2 Environmental Consequences

No Action Alternative (Alternative A)

Some 50 wetland areas located on TVA lands total approximately 50 acres and are found in most of the forecast designation categories. Under Alternative A, these areas would most likely remain largely unchanged, although some emergent wetlands may gradually mature to scrub/shrub wetlands. Wildlife species using these areas should remain unchanged.

Even though the forecast designation could change on these areas, this action would be subject to TVA NEPA review and compliance with Executive Order 11990 (Protection of Wetlands). Selection of Alternative A would have an negligible impact on wetlands and associated functions and values on a regional or subregional basis. However, wetlands located on properties forecast and developed for commercial landing, commercial recreation, public recreation, or industrial use, while protected from most direct impacts through compliance with Executive Order 11990, could suffer indirect impacts to some functions and values on a local basis.

Action Alternative (Alternative B)

Under Alternative B, wetland areas with especially substantial ecological functions and values would be allocated to Sensitive Resource Management (Zone 3). Zone 3 areas would be part of TVA's unit management planning process as described in Section 3.3.2. This planning process would emphasize sensitive natural resources on TVA lands and develop management strategies to preserve and enhance the functions and values of these wetlands resources.

Selection of the Action Alternative would have a beneficial effect on wetland resources on TVA lands.

Conclusion

Under either Alternative A (No Action) or Alternative B (Action), wetlands would be protected from most direct impacts through compliance with federal mandates and legal requirements for wetlands protection. However, under Alternative B, wetland areas with substantial ecological functions and values would be allocated to the Sensitive Resource Management Zone. This designation would allow for the development of management strategies to enhance the functions and values of wetland resources and provide a long-term beneficial effect to wetlands on TVA lands.

3.6 Recreation

3.6.1 Affected Environment

Recreation use on Melton Hill Reservoir is influenced in large part by the surrounding urban areas and the population from the adjoining counties. Melton Hill Reservoir receives an estimated 800,000 recreation visits annually, and demand for water-based recreation activities is expected to increase as a result of continuing development of privately owned land around the reservoir and the anticipated increases in the area population.

There are 2 marinas, 15 well-dispersed public boat ramps, and several parcels of land on which TVA has provided landrights to TWRA, Knox County, Anderson County Conservation Board, Oak Ridge, and Clinton for development and management of public recreation areas (see Appendix O, Recreation Areas on Melton Hill Reservoir). Some of these parcels are not yet fully developed or utilized, such as the 778-acre Haw Ridge Park or the 117-acre Melton Hill Park.

The Melton Hill Rowing Association, in partnership with the city of Oak Ridge, annually sponsors regional and national team rowing events at the 2,000-meter-long rowing course which is acclaimed as one of the best in the nation. Events have included high school and college training/competition and trials for the Pan American Games and the Olympics. An additional $1.3 million in improvements has been identified in preliminary planning efforts to further enhance the economic viability of the rowing area and the waterfront. Recent reservoir recreation development has produced the initial phases of a greenway development along Melton Lake Drive and other improvements to existing public parks. In addition, the Knox County five-year plan anticipates establishment of greenways along Beaver, Conner, and Hickory Creeks near Melton Hill Reservoir (Knoxville-Knox County MPC, 1996).

Based on comments provided to TVA through a questionnaire about Melton Hill Reservoir, the primary percentage of recreation activity preferences are boat launching (77 percent), pleasure boating (72 percent), skiing (71 percent), boat fishing (68 percent), bank fishing (61 percent), picnicking (61 percent), bike riding (60 percent), and swimming (57 percent). Over 53 percent of respondents reported that if appropriate facilities were provided, they would participate in hiking, bike riding, off-road vehicle driving, or special events. Informal recreation use occurs at numerous locations where public access exists. Among other planning priorities, questionnaire respondents indicated TVA should place a high priority on hiking trails, informal and public recreation areas, and boat ramps. They also expressed that stacked boat

storage, primitive campgrounds, and paved hiking trails should be a low priority, and that TVA should not be involved in theme parks.

3.6.2 Environmental Consequences

The current recreation commitments for landrights to public agencies and the private sector, applicable to existing public recreation facilities and services, are not affected under either alternative because the land associated with these landrights was not considered in the planning process.

No Action Alternative (Alternative A)

Under Alternative A, a large portion of TVA's retained land on Melton Hill would retain a forecast for public recreation or commercial recreation, which was put in place in the 1960s. This land could remain undeveloped and managed indefinitely for informal recreation. Under the Forecast, virtually all of these lands could be considered for more intensive recreational development by TVA or another public agency as demand dictates. Likewise, the land forecast for commercial recreation could be considered for development of facilities and services by the private sector. Although more land could potentially be considered for recreation development under Alternative A as compared to Alternative B, site-specific review of scenic qualities or sensitive resources would limit recreational development in some areas.

Action Alternative (Alternative B)

The zone allocations of the Melton Hill Reservoir Land Management Plan would not eliminate any existing recreational opportunities but could limit future recreational development of parcels which have sensitive resources identified. Under Alternative B, opportunities for informal recreation would continue or increase. This is because informal recreation is a component of and a compatible use within the Sensitive Resource Management and the Natural Resource Conservation Zones (Zones 3 and 4), and can be accommodated on an interim basis within other zones until the application of a primary zone allocation occurs, such as residential or industrial development. Future recreation development land needs have been considered, based on public input and agency responses. In addition, some recreation uses can be considered on parcels without a primary recreation zone allocation, as long as sensitive resources on these parcels are protected. For example, development of a greenway on a parcel allocated for Zone 3 would allow the continuation of existing informal uses which do not impact sensitive resources and allow some expansion of Recreation opportunities.

Conclusion

Either alternative would provide comparable recreational opportunities. Under both alternatives, land would continue to be available for informal recreation opportunities. TVA shoreline development standards, which limit the size of private dock facilities, would allow more water surface area for public recreation. Alternative A would allow more land for recreation opportunities, while Alternative B would designate certain parcels for consideration of developed uses, based on the finding in this document that sensitive resources do not exist. TVA's allocation of recreational land under Alternative

A or B would also complement other local government recreation planning efforts in the Melton Hill area, especially greenway development in Knox and Anderson Counties. Public recreation commitments will remain the same if either the No Action or Action Alternative is selected. Also, informal recreation is a major component of land use with substantial land areas available for either alternative.

3.7 Water Quality

3.7.1 Affected Environment

Reservoir water quality is influenced by operating characteristics, geology, land use, and inflow water quality. Melton Hill Dam is operated primarily for navigation and hydroelectric purposes but is also operated with consideration for water supply, recreation, and aquatic habitat. At normal maximum pool (795 feet mean sea level [msl]), the reservoir extends upstream about 44 miles. Surface area is 5,690 acres, with about 193 miles of shoreline. Average reservoir depth is about 44 feet, with a maximum depth of 61 feet. Although releases from Melton Hill Dam generally range from no discharge to the maximum turbine capacity of 20,000 cubic feet per second (cfs), the long-term average discharge is 5,270 cfs. The resulting hydraulic residence time is about 12.5 days. Melton Hill Reservoir typically fluctuates about 5 feet annually (TVA, 1992a).

The Melton Hill Reservoir watershed is 3,343 square miles in the Clinch and Powell River basins of Virginia and Tennessee. Drainage from 2,912 square miles of the watershed is controlled by Norris Dam. Drainage from the remaining 431 square miles flows directly into the reservoir. The primary land uses in the local area are forest land (primarily oak/hickory) and agricultural land consisting of small farms. Mining activities (crushed limestone and dolomite, marble, iron ore, and zinc) are located in Anderson County, and limited amounts of natural gas and oil have been found in the area. Urban development is limited in the local drainage area but is increasing. Most of the city of Knoxville and about half of the city of Oak Ridge are outside the watershed area (TVA, 1992a).

The watershed includes areas of karst topography, which may contain numerous sinkholes and caves. Groundwater in karst topography is often contaminated by animal and human wastes, as well as by other contaminants resulting from land use/human activities. A groundwater assessment in nearby Knox County showed widespread contamination of springs by fecal coliform bacteria (TVA, 1984). Most of the soils along Melton Hill Reservoir are considered to have severe limitations for septic tank systems (Knoxville-Knox County MPC, 1996). Soil erosion potential in the watershed near the reservoir is slight to moderate, except on slopes where erosion can become severe if vegetation is removed (TVA, 1992b).

About 80 percent of the total annual inflow to Melton Hill Reservoir is discharged from Norris Dam. Releases from Norris generally range from no discharge to the maximum turbine capacity of 8,400 cfs. Because the discharge water is from deep within Norris Reservoir, Melton Hill water temperature is often cold from early spring until late fall. In summer, main channel temperatures may be 30º F colder than those in nearby streams and embayments. Thermal stratification is generally weak and of short duration due to the shallow depth, cool inflow, and short residence time. Under average conditions,

warming of the reservoir from Bull Run Coal-fired Power Plant CRM 48.0) discharges tends to be confined to the upper 10 feet of the reservoir, near the opposite bank, downstream from the plant. When there is little flow, however, water temperatures may increase upstream of the plant and to greater depths (TVA, 1992b).

The waters of Melton Hill Reservoir are slightly alkaline, moderately hard, and well-buffered. The typical pH is 7.7. Nutrient concentrations are relatively high for nitrogen and relatively low for phosphorus, making phosphorus the limiting nutrient. The reservoir is considered to be moderately productive (mesotrophic), with overall good water quality and good ecological health, as measured by dissolved oxygen, sediment toxicity tests, and aquatic organism diversity (TVA, 1992a; TVA, 1992b, TVA, 1997a).

Water in the reservoir has been found to contain low levels of mercury, selenium, arsenic, organic (chlordane and 4,6-Dinitro-ortho-cresol) and radionuclides. Sediment concentrations of metals and trace organics have generally been found to be within typical ranges found in unpolluted reservoirs and lakes (TVA, 1992b); however, arsenic and mercury in some samples have exceeded Tennessee Water Quality Criteria for Recreation Waters and Organisms (Lockheed Martin Energy Systems, 1997). While there are no state water quality criteria for radionuclides, calculated estimates of human exposure show that total doses from eating fish, swimming or wading, boating and shoreline use at all Melton Hill stations were within the DOE maximum acceptable annual effective dose equivalent (EDE) of 100 millirem (DOE Order 5400.5). Elevated levels of bacteria have been found at Solway Bridge and Melton Hill Dam and have also been found during periods of high runoff in other portions of the reservoir (Fehring, 1991). However, in recent years, recreational sites tested for fecal coliform bacteria were found to meet bacteriological water quality criteria for contact recreation (TVA, 1997a).

Sediment in the reservoir has been found to contain low levels of polychlorinated biphenyls (PCBs), chlordane, copper, arsenic, mercury and radionuclides (TVA, 1997a; Lockheed Martin Energy Systems, 1996a and 1997; EPA Region IV, 1995).

Groundwater monitoring indicates that fluoride, lead, and nitrate exceeded Domestic Water Supply/Drinking Water criteria at some sampling sites near the reservoir. The fluoride and nitrate results were consistent with the geology and/or land use of the areas, while the lead was unexplained (Lockheed Martin Energy Systems, 1996a, b).

There are several sites in close proximity to Melton Hill Reservoir that are known to be contaminated by hazardous waste and radiological material. These sites may have the potential to influence water and sediment quality through surface runoff and groundwater contamination in the vicinity. One is the old Anderson County Landfill which was operated from 1973 until 1981. This site covers approximately 28 acres of the east side of the river between CRM 51.0 and CRM 52.0. A recent study included soil, sediment, leachate, groundwater, spring water, and residential well water on the site and in the immediate vicinity. Groundwater and sediments were found to contain arsenic, beryllium, and cadmium. In addition, metals, radiological compounds, and organic compounds were measured in nearby residential wells and springs. According to the Tennessee Department of Environment and Conservation (TDEC), radionuclides, volatile organic compounds, and metals originating at the site and migrating through

groundwater and surface pathways may represent a risk to human health and the environment on adjacent TVA land (TDEC, 1997b).

The second site known to be contaminating both the adjacent property, part of which is owned by TVA, and the reservoir was previously owned by American Nuclear Corporation. The company produced Cobalt-60 as a radiation source for medical instruments from 1962 to 1970. The site, now closed, is on Braden Branch Creek which enters Melton Hill Reservoir at CRM 50.5. Cobalt-60 and Cesium-137 leaked from an underground storage tank and entered a nearby spring and the creek via groundwater. An embayment formed by a railroad berm acts as a settling pond for particulates washed from the Braden Branch watershed. The American Nuclear Corporation was closed in 1970, and cleanup was completed by the state of Tennessee. The site is monitored by the Tennessee Department of Health, and public access to the building and surrounding land is prevented by fencing. Warning signs are also posted (Tennessee Department of Conservation, 1992). TVA has restricted access to the adjacent contaminated spring and continues to monitor the property, which has shown decreased radiological activity with time.

A third site, near the Solway community, was contaminated by petroleum products leaking from a UST distribution line in the late 1980s. The groundwater on adjacent TVA land is being cleaned up (Colman Oil, 1997).

3.7.2 Environmental Consequences

Under either alternative, TVA would, in its review process for proposed land use activities on parcels adjacent to contaminated sites, identify and consider contaminated water, sediment, and groundwater to protect public health. Also, monitoring of the property adjacent to the defunct American Nuclear Corporation site would continue. Neither alternative for allocating land along Melton Hill Reservoir would affect the heavy metal and groundwater contamination which resulted from past activities in Oak Ridge.

In addition to TVA activities, the following transportation projects (Knoxville Urban Area MPO, Tennessee DOT, 1997) would affect Melton Hill Reservoir lands and waters:

- Knoxville Beltway Alternative O would cross TVA Parcels 15 and 16 along Hickory Creek and 89 along Bull Run Creek. This project would cross numerous tributaries near Melton Hill Reservoir, including Hickory Creek, Conner Creek, Beaver Creek, and Bull Run Creek, Knox and Anderson Counties
- Tennessee Highway 61, four-laning from Clinton to Norris would cross the upper end of the Reservoir on a new Clinch River bridge, Anderson County
- Middlebrook Pike, SR 169, four-lane, Cedar Bluff to Ball Camp, Knox County (Beaver Creek tributaries)
- SR 33, four-lane, Halls to Union County with bridge replacement over Beaver Creek, Knox County
- I-75, six-lane from Merchant Road to Emory Road (Beaver Creek)
- Emory Road (SR 131) in Powell, Clinton Highway to I-75, Knox County (Beaver Creek)
- SR 62, Boeing Road to SR 170 in Oak Ridge, four-lane, Anderson County (Scarboro Creek)
- Dry Gap Pike widening, Knox County (Beaver Creek)

In addition, county bridge replacement projects could affect water quality in Melton Hill Reservoir. However, because all of the above projects would use Best Management Practices (BMPs) for erosion and sedimentation control, impacts to water quality from these projects would likely be negligible.

No-Action Alternative (Alternative A)

How much impairment of water quality would occur is dependent upon the exact nature and extent of proposed developments. Any residential access would be consistent with SMI. Other developments proposed would be subject to environmental review which would require use of BMPs to minimize erosion and sedimentation. In general, however, shoreline development would likely result in some degree of increased soil erosion and water temperature, due to clearing of woods and brush, increased runoff contaminated with agricultural/lawn chemicals, increased pollution associated with boating activity, increased sewage/septic loading, and shoreline development.

For developments off TVA land, TVA anticipates that Knox County will adhere to its Northwest County Sector Plan (Knoxville-Knox County MPC, 1996) in developments adjacent to TVA land and in the Melton Hill watershed. This plan recognizes the septic tank limitations in the area and commits the county to agricultural and rural residential development in areas near Melton Hill Reservoir. The agricultural and rural residential classification anticipates no more than one dwelling unit per acre. Other portions of the Melton Hill shoreline, especially near the mouth of Beaver Creek and Conner Creek and east of the Solway Bridge, are designated as slope protection areas, where the anticipated density is 2 acres per dwelling unit. These local zoning restrictions would likely provide additional water quality protection for the Melton Hill shoreline.

Action Alternative (Alternative B)

This alternative would protect water quality through designations of Sensitive Resource Management (Zone 3) and Natural Resource Conservation (Zone 4) in 74 percent of the TVA lands to be allocated. In these zones, development would be limited and management activities would be conducted in ways which would cause the least harm to the reservoir and other natural resources. Strict management of activities on these parcels would also help mitigate further spread of contaminants from adjacent sites discussed in the previous section. Erosion control and maintaining vegetated riparian zones along the shoreline are examples of practices which would help minimize impacts on water quality in areas of public use, timber harvest, etc.

Any impacts to water quality resulting from this alternative would most likely occur on the river from zones designated for residential, recreation, and industrial development. However, the standards for residential access required by the SMI would tend to minimize these impacts. Environmental regulations currently in place, in conjunction with public education on issues concerning the reservoir, should reduce negative impacts associated with development. In addition, the commitments in the Knox County Northwest Sector Plan would also reduce the density and impacts of development.

Conclusion

Water quality would not be adversely affected under either alternative. None of the ongoing water quality problems currently in the Oak Ridge area would be affected by either alternative. However, Alternative B is preferred, because it offers more protection and planning, which would benefit water quality.

3.8 Aquatic Ecology

3.8.1 Affected Environment

Aquatic habitat in the littoral (near shore) zone is greatly influenced by underwater topography and backlying land use. Underwater topography at Melton Hill Reservoir varies from moderately steep, with scattered small bluffs near the river channel, to typically shallower in embayments, coves, and areas further from the river channel. Large areas of shallow overbank are present on both sides of the channel in the area upstream of about CRM 40.0. Undeveloped shoreline, particularly on the DOE Reservation, is mostly wooded, so fallen trees and brush provide woody cover in those areas. Woody habitat is usually reduced on both DOE and TVA lands where backlying property is either agricultural or residential.

A survey was conducted on Melton Hill Reservoir in December 1996, to arrive at a modified shoreline aquatic habitat index (SAHI) score which would indicate the quality of aquatic habitat adjacent to the shoreline. Scoring parameter (metrics) used at Melton Hill included five of the seven metrics used in the SAHI surveys previously done on selected reservoirs and described in the SMI Draft EIS (TVA, 1996a). They are similar, however, and describe essentially the same categories of conditions that contribute to quality aquatic habitat (i.e., riparian cover, aquatic habitat diversity, substrate, and bank stability as indicated by extent of erosion) (Appendix P). A major difference was that the SAHI at Melton Hill did not attempt to correlate the quality of the aquatic habitat to the adjacent onshore land uses. The average score at Melton Hill was 11.5 (of a possible 20), which indicates generally fair aquatic habitat. Higher scores were seen in the quality of riparian (shoreline) vegetative cover, as indicated by the width of the strip of shoreline vegetation and the percent of canopy cover, likely reflecting the extensive wooded area on DOE property. The major problem area was bank stability.

Rock is an important constituent of littoral aquatic habitat over most of the reservoir, either in the form of bedrock outcrops or a mixture of rubble and cobble on steeper shorelines or gravel along shallower shorelines. Substrate and available aquatic habitat in coves and embayments also typically correspond to shoreline topography and vegetation. Aquatic vegetation covered an estimated 240 acres on Melton Hill in 1996, about the same as recent previous years (TVA, 1997a). In areas characterized by residential access, habitat includes manmade features such as shoreline stabilization structures (e.g., seawalls or riprap), and docks. Fallen trees are usually less numerous in residential areas.

TVA began a program to systematically monitor the ecological conditions of its reservoirs in 1990. Previously, reservoir studies had been confined to assessments to

meet specific needs as they arose. Reservoir (and stream) monitoring programs were combined with TVA's fish tissue and bacteriological studies to form an integrated Reservoir Vital Signs Monitoring program. Vital Signs Monitoring activities focus on: (1) physical/ chemical characteristics of waters; (2) physical/chemical characteristics of sediments; (3) benthic macroinvertebrate community sampling; and (4) fish assemblage sampling (TVA, 1997a).

Benthic Sampling

Benthic (lake bottom) macroinvertebrate samples were taken in three areas of Melton Hill Reservoir from 1991 through 1994 and again in 1996, as part of TVA's reservoir Vital Signs Monitoring program. Areas sampled included the forebay (area of the reservoir nearest the dam), a midreservoir transition station about 1.5 river miles above Solway Bridge (at CRM 45.0), and an upper-reservoir inflow station near the U.S. Highway 25W bridge at Clinton (CRM 58.8). 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 poor in 1991, 1993, and 1996 and fair in 1992 and 1994. The mid-reservoir station rated poor in all years except 1996, when it rated fair. The upper-reservoir station rated very poor in 1991 and 1996, with poor ratings in 1992, 1993, and 1994. There is no apparent explanation for these consistently low ratings for the benthic community, but low water temperatures resulting from releases of water from the bottom of Norris Reservoir have had a negative influence (TVA, 1997a).

Fish Sampling

The Reservoir Vital Signs Monitoring program has also included annual fish sampling at Melton Hill from 1990 through 1994 and in 1996. 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, 1997a). 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. The midreservoir station fish community rated poor in 1992, fair in 1990, 1991, and 1996 but good in 1993 and 1994. Ratings for the upper reservoir have ranged from very poor in 1991 and 1992 to poor in 1993 and 1994 to fair in 1990 and 1996. 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 39 fish species and the Cherokee bass (striped x white bass hybrid) was collected in TVA's most recent fish collections in the fall of 1996 (Appendix Q). More abundant species in the overall sample were gizzard shad, common carp, and bluegill (TVA, 1997a).

Recent TWRA fish collections at Melton Hill indicate relatively low fish productivity and standing crops (i.e., weight of fish per acre as determined by cove rotenone sampling). Fluctuating water temperatures due to cold tailwater releases from Norris Reservoir were thought to possibly affect reproductive success and growth rates of warm-water fish species. Although no creel census data is available for Melton Hill, catch rates in TWRA electrofishing samples indicate that largemouth bass provide the major black bass fishery, with higher catch rates seen in the lower section of the reservoir (TWRA, 1997).

TDEC advises that catfish from Melton Hill Reservoir not be eaten because of contamination from PCBs.

3.8.2 Environmental Consequences

Impacts to aquatic resources are directly related to changes of the existing natural shoreline conditions. Aquatic resources can be changed by impacts to shoreline (riparian) vegetation, vegetation on backlying lands, and land uses. Shoreline vegetation (particularly trees) provides shade, organic matter (a food source for benthic macroinvertebrates), and shoreline stabilization; and trees provide aquatic habitat (cover) as they fall into the reservoir. Shoreline vegetation and vegetation on backlying land provide a riparian zone which filters pollutants from surface runoff, while stabilizing erodible soils. Therefore, under either alternative, there would be some degradation of aquatic habitats if development along the reservoir shoreline continued. However, the standards in the SMI would likely reduce impacts of shoreline development on aquatic habitat.

Preservation of a natural shoreline condition to the extent possible on TVA land is particularly important on Melton Hill Reservoir, because such a large percentage of the shoreline is controlled by DOE. Although most of the DOE land is presently undeveloped, any future changes in DOE policy could open areas for development, which could potentially alter the character of much reservoir shoreline that is not controlled by TVA. However, TVA is not aware of any foreseeable DOE initiatives that would change shoreline uses along the DOE shoreline. In addition, consistent with SMI, should a change in ownership of the DOE shoreline occur, TVA would not consider residential shoreline alterations on current DOE flowage easement shoreline unless a proposal to mitigate the loss of public shoreline, preferably resulting in a gain of public shoreline, was submitted and approved.

Protection of aquatic habitats along TVA lands is made more important by the fact that the larger shallow-water embayments on the reservoir (e.g., Bearden Creek, Walker Branch, McCoy Branch), as well as other large expanses of shallower cove habitats, are adjacent to DOE lands. This littoral aquatic habitat is important because of its productivity. Reservoir fish species utilize such shorelines and littoral areas because of their spawning requirements, the presence of submerged cover (i.e., rocks, lobs, brush,

etc.), and the availability of aquatic invertebrates and small fish as a food source. Shoreline development can alter the physical characteristics of adjacent fish and aquatic invertebrate habitats, which can result in dramatic changes in the quality of the fish community. One of the most detrimental effects of shoreline development is the removal of riparian zone vegetation. Removal of this vegetation can result in loss of fish cover and shade, which elevates surface water temperatures. Also, fish spawning habitat, such as gravel and woody cover, can be rendered unsuitable by excessive siltation and erosion, which can occur when riparian vegetation is cleared (TVA, 1996b). Additionally, shoreline development often results in the removal of existing aquatic habitat (i.e., stumps, brush, logs, boulders, etc.) in association with the construction of water-use facilities such as piers and docks. Construction of docks and piers, while having short-term negative impacts, can increase fish habitat. Fixed docks and piers, especially those with pilings driven into the substrates, provide shade and cover for fish and aquatic invertebrates (White, 1975). Fixed docks, when combined with habitat improvements such as anchored brush, rock aggregations, log cribs, and/or other forms of cover, can actually enhance the shoreline aquatic habitat.

The fish consumption advisories and low fish productivity as related to water temperatures and flows found on Melton Hill would not be affected by the land management allocation plan.

No Action Alternative (Alternative A)

Under this alternative, no tracts of TVA property are designated specifically for protection of sensitive resources or conservation of natural resources. TVA would consider uses of land on a case-by-case basis if the request is consistent with the forecast use and the SMI. Additional lands would not be opened for residential shoreline development unless they meet the SMI conditions for opening new lands. Impacts to aquatic communities would be determined as each proposal is evaluated. However, the SMI standards and similar requirements for public recreation or other development would likely help to reduce aquatic resource impacts to negligible levels.

Action Alternative (Alternative B)

The Action Alternative would protect or enhance aquatic habitats by identifying sensitive resource management or conservation as the designated use on most undeveloped TVA lands. Any of the proposed uses of Zone 3 or 4 lands would allow for the protection or enhancement of aquatic habitats. Allocation of other extensive parcels (e.g., Parcel 59) for future Recreation activities such as public parks would allow anglers fishing from the bank access to the reservoir, and some such areas may be suitable for the construction of facilities such as fishing piers and the placement of artificial fish attractors or habitat enhancements.

Conclusion

Development of the reservoir shoreline is likely to continue under either alternative causing some minor negative impacts to the aquatic resources. *Because* aquatic habitat on Melton Hill can be considered only fair overall, impacts to aquatic habitats would be a major consideration in future decisions affecting TVA lands under either alternative. However, the Action Alternative, which plans for all types of development and designates lands for sensitive resource management or conservation, would have fewer impacts and is preferred.

3.9 Socioeconomics

3.9.1 Affected Environment

The Melton Hill Reservoir lies in Anderson, Roane, Loudon, and Knox Counties in middle East Tennessee, largely within the western part of the Knoxville metropolitan service area and well within the Knoxville labor market area.

Population

The 1996 population of the four counties in the Melton Hill area is estimated by the U. S. Bureau of the Census to be 523,252, an 8.5 percent increase over the 1990 population of 482,481 (Tables 3.9.1-1 and 3.9.1-2). This growth rate is slower than that of the state, which is estimated to have grown by 9.1 percent. However, Melton Hill is near the fastest-growing areas of the metropolitan area, as growth spreads westward within the area. This is evidenced by the 19.1 percent estimated increase in the population of Loudon County, from 31,255 in 1990 to 37,240 in 1996. In addition, the fastest-growing parts of Knox County have been the west and northwest areas in the general vicinity of Melton Hill. This general growth pattern is expected to continue.

Table 3.9.1-1 Population and Population Projections 1980-2010

County	1980	1990	1996	2000	2010
Anderson	67,346	68,250	71,587	74,251	79,248
Knox	319,694	335,749	364,566	375,304	402,033
Loudon	28,553	31,255	37,240	38,284	42,920
Roane	48,425	47,227	49,859	52,615	60,467
Area Total	464,018	482,481	523,252	540,454	584,668
Tennessee	4,591,023	4,877,203	5,319,654	5,518,000	6,028,000
United States (000)	226,542	248,710	265,179	274,581	297,641

Table 3.9.1-2 Percent Change in Population

County	1980-1990	1990-1996	1990-2000	2000-2010
Anderson	1.3	4.9	8.8	6.7
Knox	5.0	8.6	11.8	7.1
Loudon	9.5	19.1	22.5	12.1
Roane	-2.5	5.6	11.4	14.9
Area Total	4.0	8.5	12.0	8.2
Tennessee	6.2	9.1	13.1	9.2
United States	9.8	6.6	10.4	8.4

Source: U.S. Bureau of the Census, Census of Population; Woods and Poole.

Labor Force and Unemployment

In 1997, the civilian labor force of the area was almost 274,000, as shown in Table 3.9.1-3. Of those, almost 12,000 were unemployed, for an unemployment rate of 4.3 percent. Knox County had the lowest unemployment in the area at 3.6 percent. Other area counties had unemployment rates between 4.6 and 7.3 percent. The unemployment rate for the area as a whole was below the state and national rates, although Anderson and Roane Counties' rates were higher.

Jobs

The number of jobs in the Melton Hill area has risen fairly steadily over the past several years. In 1996, the area's total wage and salary employment was about 286,000, an increase of 12.9 percent since 1989. About 74 percent of these jobs were in Knox County.

Table 3.9.1-3 Labor Force Data, Residents of Melton Hill Area, December 1997

County	Civilian Labor Force	Employment	Unemployment	Unemployment Rate
Anderson	35,640	33,670	1,970	5.5
Knox	192,310	185,370	6,940	3.6
Loudon	19,220	18,340	880	4.6
Roane	26,470	24,530	1,940	7.3
Area Total	273,640	261,910	11,730	4.3
Tennessee	2,708,400	2,562,300	146,100	5.4
United States	136.297,000	129,558,000	6,739,000	4.9

Source: Tennessee Department of Employment Security; U.S. Bureau of Labor Statistics.

In 1996, manufacturing industries accounted for about 15 percent of the Melton Hill area's wage and salary jobs. However, in 1989, manufacturing accounted for about 19 percent of the jobs. The number of manufacturing jobs declined during this period in all of the counties except Roane, where the number remained virtually level.

The service sector was the area's largest employer, providing 83,000 jobs, or 29 percent of the area's wage and salary employment. The service sector experienced an employment increase of almost 30 percent between 1989 and 1996.

Occupation Patterns

Both Knox and Anderson Counties have a higher proportion of their workers in managerial and professional jobs than the state average, pulling the share for the Melton Hill area to 27.7 percent, compared to 22.6 percent statewide. Conversely, the area has a lower share of its workers in the lower-paying blue-collar jobs. The shares in Roane County are similar to the statewide averages, while Loudon County has proportionally fewer managerial and professional workers and more blue-collar workers at both low and higher skill levels.

Income and Retail Sales

Per capita personal income in the area increased by 179 percent between 1979 and 1995, about the same as the 183 percent increase experienced by the state of Tennessee but greater than the 155 percent national increase. The per capita income of area residents in 1995 was $22,246, exceeding the level of the state of Tennessee and reaching 96 percent of the U.S. average. Knox County's per capita income of $23,107 was the highest in the Melton Hill area.

The manufacturing sector currently generates 18.7 percent of the area's earnings by place of work, about the same as the national average of 18.5, but below the state average of 23.2 percent. The Melton Hill area share, however, is misleading. In Knox County, only 12.8 percent is from manufacturing, while in the other three counties, the share ranges from 29.3 to 34.2 percent.

Housing

Based on 1990 median values of owner-occupied houses, housing prices are generally similar to those elsewhere in the state. Roane County had the lowest-priced housing of the area counties at $48,700, while Knox County had the highest-priced at $63,700. The median value of housing in the state of Tennessee was $58,000 in 1990.

Lakefront lots on Melton Hill Reservoir, one-third to one-half acre in size, currently sell for between $30,000 to $72,000 (TVA, 1998). The market continues to grow for lakefront and lakeview real estate.

Industrial Sites

Industrial and economic development activities related to Melton Hill Reservoir occur both adjacent to the reservoir and in communities near the reservoir. These existing development activities are enhanced by good highways, rail facilities, the availability of services, and a land base for both waterfront and nonwaterfront facilities. There are 19 industrial parks in Anderson, Roane, Loudon, and Knox Counties, which have tracts of land that are developed and available for industrial use, and a total of two industrial parks on the reservoir itself. The Carden Farm Industrial Park in Anderson County is located along Melton Hill Reservoir and has frontage along the water. There are no

industries in the industrial park that currently use the river for barge transportation. The Eagle Bend Industrial Park, just upstream of the Carden Farm Industrial Park, does not have any land available for development, but a barge terminal was constructed by an industry in the industrial park to load steel onto barges for outbound shipment.

The DOE, through a "reindustrialization" program, plans to convert the former Oak Ridge Gaseous Diffusion Plant (K-25) in Roane County to private uses. DOE would like to eliminate the federal presence at K-25 by 2010 and has recently renamed the facility as the East Tennessee Technology Park. A new 1,000-acre industrial park, currently called ED1, is being planned in Roane County just west of Oak Ridge. The new industrial park is adjacent to K-25 and is part of the newly named East Tennessee Technology Park. There are also two large tracts of land on Watts Bar Lake in Roane County downstream from Melton Hill Dam which are available for waterfront industrial development.

Environmental Justice

The nonwhite population in the area in 1990 was lower than the state average of 17.0 percent. The highest share was in Knox County, 10.2 percent, with the other counties ranging from 5.3 in Anderson to 3.8 in Roane and 1.7 in Loudon. Hispanic origin populations range from .3 to .6 percent, all below the state average of .7 percent.

In Roane County, the percentage of persons below poverty level in 1989 was 16.0, slightly higher than the state average of 15.7. The other counties had poverty populations ranging from 13.6 percent in Loudon County to 14.1 and 14.3 in Knox and Anderson, respectively.

3.9.2 Environmental Consequences

Potential socioeconomic impacts could arise from use of reservoir lands for industrial or commercial use and from the construction of water-use facilities. Effects may also occur if recreational or scenic values attract people from outside the area. Additional impacts may occur if residential development is attracted to areas on or near the reservoir.

No Action Alternative (Alternative A)

Under the No Action Alternative, the Forecast would continue to be used. This system currently classifies close to 500 acres of land for industrial use. Most of this land, however, may in fact be unavailable for such use due to the presence of sensitive resources or due to their use for enhancement of natural resources.

Approximately 1,400 acres of land are classified under the Forecast as being available for recreation. Most of this allows informal, dispersed activities such as hunting, hiking, fishing, and primitive camping, as well as more formal activities in developed areas such as parks, boat launching areas, and campgrounds. Most activity of this type is by people who live in the area around the reservoir, although there is and will continue to be some outside usage. This outside usage has a positive impact on income and employment in the area; however, this impact is not likely to be an important component of income in the area. Lands classified as commercial recreation could be

used for larger recreation developments such as marinas, commercial boat docks, and campgrounds. However, of Parcels 51 and 91, the larger one does not lend itself to such use because of sensitive natural resources. Any development approved would have to be compatible with these resources or it would not be allowed.

There is potential for additional residential development along the reservoir. Some shoreline could be developed with water-use facilities in existing residential areas (Zone 7) and by applying the current guidelines. (Any requests for activities or structures on TVA land must have written permission by TVA prior to commencement.) Most of the people who would move to residences along TVA-owned shoreline are persons who would otherwise live somewhere in the general area. Thus, the construction of homes adjacent to TVA-owned shoreline would not be an important impact on the local economy. While the construction of additional water-use facilities might impact the local economy, it is not likely to be an important factor.

Action Alternative (Alternative B)

Under Alternative B, more land would be classified in categories that allow some level of recreation, predominantly informal recreation. Given the restraints on land use due to sensitive resources and natural resource conservation needs, the extent and amount of informal recreation would not be very different from the No Action Alternative. Also, there would be no important differences in the possibilities for recreation development. Therefore, there would be no important differences, as compared to the No Action Alternative, in economic impacts due to recreation and tourism.

Only a small amount of land would be available for industrial development. There would be one relatively large tract, the Carden Farm tract, of about 74 acres. The remaining industrial land is small tracts, generally usable only for access to the water from backlying tracts. Compared to the No Action Alternative, this is an important difference in the amount of land available, reducing the potential for impacts from industrial development.

There are several areas where residential access would be available along the shoreline. These areas have existing access rights or are located in a development where such rights already exist for some residents. Granting of such access will be in accord with SMI.

As discussed in Alternative B, Sections 2.3 and 2.4, allocating uncommitted TVA lands would decrease the emphasis on commercial, industrial, and residential uses and increase the emphasis on sensitive resource protection and natural resource conservation. This change in emphasis could lead to less development on the shoreline. However, this probably would not have an important impact on the local economy since much of the activity probably would occur nearby instead.

Environmental Justice

There would be no important difference between the alternatives with regard to impacts on minority and low-income populations. Major commercial or industrial developments, which might occur under either alternative would receive the appropriate level of

environmental review before they could be approved. These predevelopment reviews would ensure that minorities and low-income populations are not disproportionately impacted by such developments.

3.10 Navigation

3.10.1 Affected Environment

The commercial navigation channel on Melton Hill Reservoir extends 38.5 miles from Melton Hill Lock and Dam at CRM 23.1 upstream to the Eagle Bend Industrial Park. The commercial channel was prepared to provide a year-round, minimum 11-foot (3.35-m) channel suitable for 9-foot (2.74-m) draft barges. Seven safety landings were established at intervals along the channel to provide commercial tows places to tie off and wait during periods of severe weather, fog, or equipment malfunction. Safety landings are located on Melton Hill Parcels 9, 21, 26, 40, 49, and 74. The U.S. Coast Guard maintains navigation channel buoys and onshore dayboards and day beacons marking the commercial navigation channel. In 1997, the U.S. Coast Guard reduced the number of navigation aids to a minimum, due to the limited barge traffic on Melton Hill in recent years. There are no active barge terminals at present on Melton Hill Reservoir. TVA occasionally moves large pieces of equipment by barge to Bull Run Coal-fired Power Plant and uses a towboat and barge to perform maintenance dredging at the plant's water intake.

TVA marks secondary navigation channels on Hickory, Conner, Beaver, and Bull Run Creeks for recreational boaters.

3.10.2 Environmental Consequences

No Action Alternative (Alternative A)

The current Forecast identifies and designates shoreline for seven safety landings on Melton Hill Reservoir. If the No Action Alternative remains in place, the tracts containing the safety landings would continue to be forecast for that purpose. TVA prohibits the construction of all water-use facilities and shoreline alterations within the marked limits of safety landings. The only acceptable shoreline alteration is the placement of riprap for control of erosion. Under this alternative, the safety landings would continue to be available for use by the towing industry and there would be no impact on navigation.

Action Alternative (Alternative B)

Under the Action Alternative, no new lands would be requested for safety landings. Melton Hill Parcels 9, 21, 26, 40, 49, and 74 would retain their designation for use as safety landings. The practice of prohibiting the construction of water-use facilities and shoreline alterations within the marked limits of safety landings would continue. In addition, water-use facilities on shoreline upstream and downstream of the safety landings would need to be restricted to ensure that barge tows would have sufficient room to maneuver in and out of the safety landing without the risk of damaging private property. In the land management plan, Parcels 21 and 91 would be designated for

Recreation. Recreation would include a variety of uses such as marinas and docks, boat ramps, fishing piers, and campgrounds. Parcel 21 has been identified as a potential site for a commercial marina and related facilities. To avoid interference with commercial navigation and potential negative impacts, marina development on Parcel 21 would be limited to the embayment located on the downstream end of the tract. Parcel 40 is allocated for Sensitive Resource Management Zone to protect a cave located just upstream from the mouth of Beaver Creek. The navigation safety landing on this tract extends from the mouth of Beaver Creek for about 1,000 feet upstream. Due to the navigation restrictions concerning water-use facilities and shoreline alterations within safety landings, the presence of the safety landing on the parcel would help ensure that a natural buffer is maintained along the shoreline in the vicinity of the cave. Use of the parcel for sensitive resource management would have no impact on use of the parcel as a safety landing. Parcels 9, 26, and 74 are designated for TVA Project Operations, which includes use of the shoreline for safety landings.

3.11 Floodplains

3.11.1 Affected Environment

The 100-year flood elevation on Melton Hill varies from elevation 796.0 feet msl at the dam (CRM 23.1) to elevation 808.6 feet msl at the upper end of Melton Hill Reservoir (CRM 65.5). A tabulation of the 100-year flood elevations is included (Appendix R). The planned land lakeward boundary is normal summer pool elevation of 795.0 feet msl.

3.11.2 Environmental Consequences

Under either alternative, any development proposed in the 100-year floodplain would be subject to the requirements of Executive Order 11988 (Floodplain Management). Facilities such as boat docks, riprap, and launching ramps are water-dependent and must be located in the floodplain. Facilities that are not water-dependent are not expected to be located in the 100-year floodplain as a result of this land management plan.

Any fill material placed between elevations 790.0 feet msl and 795.0 feet msl is subject to a charge for lost storage for hydroelectric production. All development subject to flood damage must be located above the 500-year flood elevation. The 500-year flood elevation varies from elevation 796.0 feet msl at the dam (CRM 23.1) to elevation 811.0 feet msl at the upper end of Melton Hill Reservoir (CRM 65.5). A tabulation of the 500-year flood elevations is located in Appendix R.

3.12 Air Quality

3.12.1 Affected Environment

National Ambient Air Quality Standards limit concentrations in the outside air of six pollutants: particulate matter, sulfur dioxide, carbon monoxide, ozone, nitrogen dioxide, and lead. These standards are designed to protect public health and welfare. An area where any air quality standard is violated is designated as a nonattainment area for that pollutant, and emissions of that pollutant from new or expanding sources are carefully

controlled. Knox County, which borders the reservoir on the southeast, has been a nonattainment area for ozone and currently is in maintenance status for the pollutant. In July 1997, EPA promulgated new, more restrictive standards for ozone and particulate matter. These new standards will not be implemented until the year 2000 and will not be fully implemented until the year 2005. However, once these standards are implemented, it is expected that Anderson County and several surrounding counties (Blount, Knox, Loudon, Sevier, and Union) will be nonattainment for ozone and/or particulate matter.

In addition, Prevention of Significant Deterioration (PSD) regulations protect national parks and wilderness areas which are designated PSD Class I air quality areas. A new or expanding major air pollutant source within 31 miles of a Class I area would be required to estimate potential impact on the air quality of that Class I area. In addition, the federal land manager having jurisdiction over the Class I area may request similar action for large sources at distances of 31 to 62 miles.

The PSD Class I areas within 62 miles of Melton Hill Reservoir are the Great Smoky Mountains National Park, the Joyce Kilmer/Sliderock Wilderness Area, and Cohutta Wilderness Area, which are all 40 miles or more east of the Melton Hill Reservoir.

3.12.2 Environmental Consequences

Industrial/Commercial Development

Any new industrial or commercial development anticipated would be required to meet Clean Air Act standards in effect at the time. Any facilities on TVA land or facilities in the surrounding area would also require an air quality permit from the state of Tennessee. This would evaluate the magnitude of air emissions from the proposed source and from existing nearby sources, meteorological factors that affect dispersion of the pollutants, and the proximity to areas with special air quality requirements, such as nonattainment areas and PSD Class I areas.

Residential Development

The plan is designed to minimize direct, indirect, and cumulative air emissions impacts resulting from any TVA allocation decisions. Pollution from fossil-fuel combustion in construction equipment, fugitive dust emissions from operation of this equipment during dry conditions, and increased traffic during construction would cause some minor and temporary air quality degradation in the vicinity of the reservoir. However, state air pollution rules require construction projects to use reasonable precautions to prevent fugitive dust emissions. After construction is completed, normal residential activities, such as using wood stoves, fireplaces, and gas-powered lawnmowers, would contribute somewhat to deterioration in local air quality, though it is not expected to have any impact on regional air quality.

No Action Alternative (Alternative A)

Under Alternative A, the Forecast would remain in place and any proposed industrial, commercial facilities, or residential access would continue to be evaluated on a case-

by-case basis. No facilities are anticipated that would be inconsistent with air quality standards; therefore, local or regional air quality would not be negatively affected.

Action Alternative (Alternative B)

Proposed industrial or commercial facilities on land allocated to Industrial/Commercial Development (Zone 5) would be evaluated on a case-by-case basis but would be limited to established areas. Likewise, proposals for residential access on land allocated to Residential Access (Zone 7) would be evaluated on a case-by-case basis but would be limited to established residential areas.

Conclusion

Both alternatives would have negligible effects on air quality.

3.13 Prime Farmland

There are currently 19 agricultural licenses on Melton Hill Reservoir affecting portions of 15 parcels of land. These properties are listed in Table 3.13-1 along with both their present Forecast Designation (Alternative A) and Plan designation (Alternative B).

TVA natural resource specialists will develop a written unit management plan, with an emphasis on customer input, that will provide for a long-term management strategy for parcels planned for natural resource conservation and sensitive resource management as designated in the Land Management Plan. Most of the current agricultural license tracts will be considered in the development of this natural resource management plan. Because of this ongoing planning effort, TVA has decided to extend the agricultural license period for one year to expire on December 31, 1999. At that time TVA will determine if certain tracts of land will remain in the agricultural license program as currently managed or will be modified to meet customer-identified and planned natural resource management needs. This determination would be performed consistent with the Farmland Protection Policy Act, thereby minimizing impacts to farmland.

Table 3.13-1 Existing Agricultural Licenses

Parcel	Forecast Designation (Alternative A)	Plan Designation (Alternative B)
83	Commercial Recreation/Reservoir Operations	Zone 3 - Sensitive Resource Mgmt.
88	Public Recreation	Zone 4 - Natural Resource Conservation
89	Public Recreation	Zone 3 - Sensitive Resource Mgmt.
90	Power Transmission System	Zone 3 - Sensitive Resource Mgmt.
98	Commercial/Commercial Islands	Zone 3 - Sensitive Resource Mgmt.
99	Industrial	Zone 3 - Sensitive Resource Mgmt.
100	Industrial	Zone 4 - Natural Resource Conservation
108	Industrial	Zone 3 - Sensitive Resource Mgmt.
109	Public Recreation/Reservoir Operations	Zone 3 - Sensitive Resource Mgmt.

Parcel	Forecast Designation (Alternative A)	Plan Designation (Alternative B)
111	Public Recreation	Zone 4 - Natural Resource Conservation
114	Public Recreation	Zone 3 - Sensitive Resource Mgmt.
115	Public Recreation	Zone 6 - Recreation
121	Public Recreation	Zone 3 - Sensitive Resource Mgmt.
143	Reservoir Operations-Islands/Reservoir Operations	Zone 3 - Sensitive Resource Mgmt.
149	Commercial Landing	Zone 3 - Sensitive Resource Mgmt.

3.14 Cumulative Impacts

This EA tiers off the SMI EIS for the cumulative impacts of residential development activities on this and other reservoirs in the TVA system.

Implementation of either the Land Management Plan (Alternative B) or continued use of the Forecast (Alternative A) could change the land use of individual sites on Melton Hill Reservoir. However, the impacts of these changes would be minor compared to the continuing development on non-TVA lands near the reservoir. The Melton Hill Reservoir land allocations would not affect the larger trends in resources occurring on non-TVA land around the reservoir. Residential development of private property near the Melton Hill Reservoir is expected to continue, regardless of the method TVA uses to manage reservoir lands. Likewise, increased demand for the use of the reservoir and adjacent TVA lands for all types of human activities is likely to continue with the projected rise in population. Accompanied with this increased use will be increased air pollution from vehicles and heating units; more water runoff from roads, parking lots, and roofs; larger volumes of solid waste and sewage; increased traffic; and increased need for support infrastructure. However, TVA's decisions concerning allocations of TVA-owned Melton Hill Reservoir lands would have only minor or negligible effects on these growth-related environmental impacts

3.15 Commitments

A complete list of commitments to be followed on Melton Hill Reservoir can be found on the last page of the Finding of No Significant Impact document at the end of this volume.

Chapter 4

Supporting Information

4.1 List of Preparers

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4.2 List of Agencies and Individuals Consulted

List of agencies and persons to which the EA will be sent.

Federal Agencies

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
U.S. Department of Energy

State Agencies

East Tennessee Development District
Tennessee Commission on Indian Affairs
Tennessee Department of Environment and Conservation
Commisioner's Office
Division of Water Pollution Control
Division of Air Pollution Control
Division of Water Supply
Division of Ground Water Protection
Tennessee Department of Transportation
Tennessee Division of Natural Heritage
Tennessee Historical Commission
Tennessee Wildlife Resources Agency

Regional/Local Agencies

Anderson County
City of Clinton
City of Oak Ridge
Knox County
Loudon County
Melton Hill Industrial Development Council
Roane County

Individuals

Adams, Ben S., Oak Ridge, TN 37831
Allison, Malcolm, Knoxville, TN 37931
Anderson County Chamber of Commerce, Clinton, TN 37716
Anderson County Conservation Board, Clinton, TN 37716
Anderson County Zoning Office, Clinton, TN 37716
Anderson, Eric, Oak Ridge, TN 37830
Anderson, Glenn E., Clinton, TN 37716
Anderson, Sam, Knoxville Parks and Recreation, Knoxville, TN 37902
Andrews, Thomas and Wilma, Knoxville, TN 37931
Baker, Kathryn, Knoxville, TN 37923
Barclay, Lee A., Cookeville, TN 38501
Barnes, Shawna, Powell, TN 37849

Bataille, Doug, CLP, Knox County Recreation, Knoxville, TN 37902
Bellamy, Ronald D., Clinton, TN 37716
Betts, John, Knoxville, TN 37931
Biddle, E.L. and Ernestine, Knoxville, TN 37931
Billings, A. M., Oak Ridge, TN 37830
Bishop, Marlene, Felicity, OH 45120
Bittle, H. E., Knoxville, TN 37932
Bittle, Rusty, Knoxville, TN 37932
Bolling, David, County Executive, Clinton, TN 37716
Bostic, Dale, Oak Ridge, TN 37830
Boswell, Thomas and Shawnlu, Knoxville, TN 37931
Brandon, Lisa, Knoxville, TN 37931
Brennan, James M., Loudon, TN 37774-6917
Brown, Walter K., Mayor of Oak Ridge, Oak Ridge, TN 37831
Bryant, Frank, Knoxville, TN 37932
Bryant, Larry, Powell, TN 37849
Budde, M., Knoxville, TN 37921
Burchfield, Robin, Rogersville, AL 35652
Burdette, Robert H., Knoxville, TN 37931
Burnes, Joan, Tennessee Citizens for Wilderness Planning, Oak Ridge, TN 37830
Burnette, Perry and Nancy, Knoxville, TN 37931
Butler, Michael, Nashville, TN 37209-3200
Butler, Tom, Knoxville, TN 37932
Cagley, Earl, Knoxville, TN 37931
Carden, David, Lake City, TN 37716
Cardwell, Charles, Kingston, TN 37763
Carlton, John, Knoxville, TN 37931
Carothers, Harlab G., Lenoir City, TN 37771
Carson, Judith, Clinton, TN 37716
Carter, Chris, Loudon, TN 37777
Castleberry, Scott, Knoxville, TN 37931
Caudill, Don, Knoxville, TN 37931
Childress, Billy Gene, Knoxville, TN 37920
Clark, Pat, Lenoir City, TN 37771
Clements, Mrs. A., Clinton, TN 37716
Clevenger, Les, Knoxville, TN 37931
Clifton, Jamie, Powell, TN 37849
Clinton Parks and Recreation, Clinton, TN 37716
Collins, E. Joshua, Oak Ridge, TN 37831
Collins, Josh, Recreation and Parks, Oak Ridge, TN 37830
Collins, Mary, Lenoir City, TN 37771
Conrad, D. and J., Knoxville, TN 37931
Cook, Ann, Oak Ridge, TN 37830
Cooper, James R., Clinton, TN 37716
Cooper, Roy and Bonnie Carroll, Knoxville, TN 37931
Copeland, John, Powell, TN 37849
Cottrell, Katie, Clinch River Raptor Center, Oak Ridge, TN 37830
Cowan, Leigh, Knoxville, TN 37931
Crass, Tim, Kingston, TN 37763
Croes, John L., Clinton, TN 37716

Cumbow, David, Piney Flats, TN 37686
Cupp, Lynn E., Knoxville, TN 37931
Currence, Ed, Knoxville, TN 37932
Dallas, Brad, Knoxville, TN 37931
Daniel, David C., Knoxville, TN 37931
Defenderfer, Robert, Knoxville, TN 37932
Derrick, William T., Knoxville, TN 37919
Dickert, Arby D. and Linda, Knoxville, TN 37931-2802
Diggs, Mayor Frank, City of Clinton, Clinton, TN 37716
Dixon, Walt, Knoxville, TN 37923
Dodson, Kim, Clinton, TN 37716
Dolfis, John, Seneca, SC 29672
Drummond, Charles, Warren, MI 48093
Easter, Renita, Kingston, TN 37763
Easterly, Bob, Lenoir City, TN 37771
Edmondson, Frank "Bucky," Upper Holston Watershed Team, HFB 1A-KPT
Eggert, Dennis, Oak Ridge, TN 37830
Ekstrom, Karl, Knoxville, TN 37932
Elliott, Catherine, Lenoir City, TN 37771
Farrell, Jeff, The News Herald, Lenoir City, TN 37771
Fersner, Darryl, Knoxville, TN 37931
Fischer, Alex R., Knoxville, TN 37915
Ford, Monica, Knoxville, TN 37931
Frazier, D. D., Kingsport, TN 37663
Freeman, Jenny, Oak Ridge, TN 37830
Fritts, Steve and Debbie, Knoxville, TN 37932
Gaddis, Mike, Louisville, TN 37777
Gamble, Bill, Knoxville, TN 37931
Gann, Mr., Knoxville, TN 37930-0151
Garmon, Fred, Oak Ridge, TN 37830
Gates, Paul, Knoxville, TN 37931
Gentry, Harry, Lenoir City, TN 37771
Gilbreath, Jim, Powell, TN 37849
Goins, Brian, Knoxville, TN 37932
Goldfinger, Richard, Oak Ridge, TN 37830
Goodman, Mary, Kingston, TN 37763
Gould, Steve, Knoxville, TN 37932
Greenlee, Douglas, Oak Ridge, TN 37830-5607
Griffitts, Bob, Knoxville, TN 37902
Groton, Jimmy, Oak Ridge, TN 37830
Grubb, Joy, Oak Ridge, TN 37830
Hagood, Russell, Knoxville, TN 37919
Hall, Danny, Friendsville, TN 37801
Hall, L. B., Clinton, TN 37716
Hall, Michelle, Lenoir City, TN 37771
Hamby, Cathy, Kingston, TN 37763
Hammontree, Chucky C., Greenback, TN 37742
Handi, Gabriela, Oak Ridge, TN 37830
Hardy, Travis, Loudon, TN 37774
Harless, Jim, Oak Ridge, TN 37830

Harper, Herbert, Nashville, TN 37243-0442
Hart, Edward, Knoxville, TN 37909
Harvey, Jerry, Kingston, TN 37763
Hayes, Professor Gene, Knoxville, TN 37996-2710
Hedges, Vernon Dale, Clinton, TN 37716
Hertwig, Bob, Clinton, TN 37716-7035
Higdon, Linda, Athens, TN 37303
Hobbs, Kristin, Oak Ridge, TN 37830
Hodges, Sharon, TDOT, Knoxville, TN 37914
Hoefer, Carl
Holtzclaw, Fred, Clinton, TN 37716
Hope, Kurt, Oak Ridge, TN 37830
Huskin, Kristen L., Lenoir City, TN 37771
Huston, Michael, Oak Ridge, TN 37830
Inklebarger, Bill, Knoxville, TN 37950
Irwin, James E., Heiskell, TN 37754
Irwin, Richy Lynn, Powell, TN 37849
Issell, William E., Oak Ridge, TN 37831-0001
Jenkins, Glen, Powell, TN 37849
Jensen, Carolyn Carter, Knoxville, TN 37919
Jernigan, Jay and Mary, Knoxville, TN 37931
Jessing, Rick, Clinton, TN 37716
Johnson, Chester, Oak Ridge, TN 37830
Johnson, Robert, Clinton, TN 37716
Jones, Charles E., Knoxville, TN 37931
Jones, Fred, Maryville, TN 37802
Jones, Vincent and Teresa, Knoxville, TN 37931
Justice, Kathy, Harriman, TN 37748
Keily, Brad, Knoxville, TN 37932
Keim, Bob
King, Suzanne T., Clinton, TN 37716
Koelsch, Richard and Jane, Knoxville, TN 37931
Kwiecien, George, Lenoir City, TN 37771
Lackey, Eugene, Oliver Springs, TN 37940
Landstreet, Charles Busch, Knoxville, TN 37919
Lane, James R., Loudon, TN 37774
Large, Dewey and Irene, Knoxville, TN 37931
Larson, George and Jane, Knoxville, TN 37931
Leinart, Bill, Clinton, TN 37716
Lewis, Steve, Knoxville, TN 37932
Luzader, Bill, Docks 'n Stuff, Oak Ridge, TN 37930
Mann, Kirsten Nelson, Clinton, TN 37716
Martin, B. D., Clinton, TN 37716
Martin, Hugh, Clinton, TN 37716
Mayfield, Leland R., Andersonville, TN 37705
Maze, Chester, Knoxville, TN 37923
McBride, Becky, Knoxville, TN 37923
McCreedy, Mark, Oak Ridge, TN 37830
McDade, George, Knoxville, TN 37931
McLaughlin, Samuel, Knoxville, TN 37932

McRae, William E., Powell, TN 37849
Meggison, Ann, Powell, TN 37849
Melton Hill Regional Industrial Development Association, Clinton, TN 37716
Meredith, Lynn, Clinton, TN 37716
Miller, George, Loudon, TN 37774
Miller, Mark and Mitzi, Knoxville, 37931
Monaj, Michael S., Oak Ridge, TN 37830
Moneymaker, Ronald, Clinton, TN 37716
Montgomery, D. D., Knoxville, TN
Moran, Michael S.
Morrison, Don, Clinton, TN 37716
Murr, Joel, Kingston, TN 37763
Murr, Tom, Loudon, TN 37774
Murray, Ann, Nashville, TN 37209
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Parker, Paul E., Lenoir City, TN 37771
Paynter, John, Middlesboro, KY 40965
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Pietrzak, Randy, Oak Ridge, TN 37830
Price, Tim, Philadelphia, TN 37846
Pruett, Alisa Cathcart, Knoxville, TN 37931
Queener, Steve (12), Clinton, TN
Rayman, Charles, Knoxville, TN 37909
Reed, Marcy R., Oak Ridge, TN 37830
Resnick, Max, Oak Ridge, TN 37830
Rhea, Tommy L., Oak Ridge, TN 37830
Rice, Dean, Knoxville, TN 37902
Rice, Jim, Knoxville, TN 37932
Riggs, William R., Clinton, TN 37716
Robbins, G. D., Oak Ridge, TN 37830
Robinson, Catherine, Heiskell, TN 37754
Rogers, Jack and Lisa, Morristown, TN 37814
Rohling, Jodi L., Oak Ridge, TN 37830
Russell, MD, Bill, Oak Ridge, TN 37830
Russell, Liane, Oak Ridge, TN 37830
Russell, Walter E., Lenoir City, TN 37771
Ruth, Tony, Lenoir City, TN 37771
Sams, Doris, Powell, TN 37849
Satterfield, Ben, Knoxville, TN 37921
Schumpert, Tommy, Knoxville, TN 37902

Selvidge, Philip, Loudon, TN 37774
Sharp, Brian, Knoxville, TN 37931
Sheffler, T. Tim, Oak Ridge, TN 37830
Shrader, Jere, Lenoir City, TN 37771
Shupp, Teresa, Knoxville, TN 37922
Sims, Walter, Knoxville, TN 37932
Smalley, Ruth, Knoxville, TN 37931
Smith, Ellen, Oak Ridge, TN 37830
Smith, Keith, Knoxville, TN 37924
Sparks, Bill and Celia, Knoxville, TN 37931
Spencer, Stephen, Oak Ridge, TN 37830
Spies, Larry, Louisville, TN 37777
Spooner, Stephen, Oak Ridge, TN 37830
Stair, Parker, Claxton, TN 37716
Stair, Richard, Lenoir City, TN 37771
Stang, John T., Lenoir city, TN 37771
Steele, Vivian, R., Clinton, TN 37716
Stephens, Larry, Powell, TN 37849
Stewart, Karyl S., Oak Ridge, TN 37830
Stewart, Tyler, Oak Ridge, TN 37830
Stokes, Lloyd E., Oak Ridge, TN 37830
Strunk, Kathy, Clinch River Raptor Center, Oak Ridge, TN 37830
Talley, Tim W., Knoxville, TN 37931
Tennessee Conservation League, Nashville, TN 37209-3257
Terpstra, Peggy, Oak Ridge, TN 37830
Thornburgh, Thomas, Oak Ridge, TN 37830
Tindula, Roy and Linda, Clinton, TN 37716
Townsend, Bo, Ijams Nature Center, Knoxville, TN 37920
Tullock, Susie, Knoxville, TN 37931
Turner, Kyle A., Knoxville, TN 37923
Turnage, Gordon and DiAnna, Knoxville, TN 37931
US DOE, Oak Ridge Operations Office, Oak Ridge, TN 37831
Vella, Mary, Kingston, TN 37763
Viars, Charles, Loudon, TN 37774
Walton, Barbara A., Oak Ridge, TN 37830
Warren, Kenneth S., Oak Ridge, TN 37830
Wells, Shirley, Clinton, TN 37716
Wesley, Gina, Knoxville, TN 37932
White, Bob, Oak Ridge, TN 37830
White, Gregg, Loudon, TN 37774
Whitley, Garry, Jr., Clinton, TN 37716
Wilson, David, Oak Ridge, TN 37830
Wilson, W. O., Lenoir City, TN 37771
Wittmer, Larry, Knoxville, TN 37932
Wood, Tom, Oak Ridge, TN 37830
Woodby, Johnny, Knoxville, TN 37922
Wright, David, Knoxville, TN 37931
Wright, Jason, Kingston, TN 37763
Yager, Ken, Kingston, TN 37763
Yaggi, William J., Clinton, TN 37716

Yahr, G. T., Oak Ridge, TN 37830
Yannitell, David, Knoxville, TN 37831

4.3 Glossary of Terms

100-year floodplain - the area inundated by the 1 percent annual chance (or 100-year) flood.

agricultural licensing - Some parcels or portions of parcels designated for other purposes or uses may also be suitable for interim agricultural licensing. These parcels have been identified, using the criteria contained in TVA's agriculture instruction. Normal tenure for a TVA agricultural license is five years. Land with extreme erosion potential may not be licensed for agricultural use unless erosion and sediment controls, including the use of BMPs, can be successfully implemented. Further investigation and/or mitigation of adverse impacts to natural or cultural resources may be required prior to approval of license agreements.

benthic - refers to the bottom of a stream, river, or reservoir.

cumulative impacts - impacts which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions, regardless of what agency or person undertakes such actions (40 CFR 1508.7).

dam reservation - lands generally maintained in a park-like setting by TVA to protect the integrity of the dam structure, hydroelectric facilities, and navigation lock. The reservation also provides for public visitor access to the TVA dam facilities and recreation opportunities, such as public boat access, bank fishing, camping, picnicking, etc.

direct impacts - effects which are caused by the action and occur at the same time and place (40CFR 1508.4).

dissolved oxygen - the oxygen dissolved in water, necessary to sustain aquatic life. It is usually measure din milligrams per liter or parts per million.

drawdown - area of reservoirs exposed between full summer pool and minimum winter pool levels during annual drawdown of the water level for flood control.

dredging - the removal of material from an underwater location, primarily for deepening harbors and waterways.

embayment - a bay or arm of the reservoir.

emergent wetland - wetlands dominated by erect, rooted herbaceous plants such as cattails and bulrush.

fecal coliform - common intestinal bacteria in human and animal waste.

floodplains - any land area susceptible to inundation by water from any source by a flood of selected frequency. For purposes of the National Flood Insurance Program, the floodplain, as a minimum, is that area subject to a 1 percent or greater chance of flooding (100-year flood) in any given year.

flowage easement tracts - non-TVA lakeshore properties where TVA has (1) the right to flood the land as part of its reservoir operations, (2) no rights for vegetation management, and (3) the authority to review plans for the construction of structures, under Section 26a of the TVA Act.

Forecast Process - process used for planning the use of TVA reservoir lands. TVA staff would provide a record of actual and prospective uses indicated for particular properties. A forecast record book was prepared for each TVA reservoir to serve as a general guide for use or development to benefit TVA staff interests and the local or regional economy. Decisions on the best use of the property were made, using internal agency expertise. The new land use planning process will eventually replace the Forecast system as the mechanism for identifying acceptable uses of TVA reservoir land. A major difference between the two methods is the involvement of the public in the planning process.

fragmentation - the process of breaking up a large area of relatively uniform habitat into one or more smaller, disconnected areas.

indirect impacts - effects which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable (40 CFR 1508.4).

macroInvertebrates - aquatic insects, snails, and mussels whose species, genus, etc., can be determined with the naked eye.

mainstream reservoirs - impoundments created by dams constructed across the Tennessee River.

marginal strip - the narrow strip of land owned by TVA between the water's edge and the adjoining private property, on which the property owner may construct private water-use facilities upon approval of plans by TVA.

neotropical migrant birds - birds which nest in the United States or Canada and migrate to spend the winter in Mexico, Central America, the Caribbean, or South America.

physiographic provinces - general divisions of land with each area having characteristic combinations of soil materials and topography.

plan tract - a numbered parcel of TVA fee-owned land which, prior to the plan, has had no long-term commitments affecting future land uses as assigned through the reservoir land planning process.

prime farmland - generally regarded as the best land for farming, these areas are flat or gently rolling and are usually susceptible to little or no soil erosion. Prime farmland produces the most food, feed, fiber, forage, and oil seed crops with the least amount of fuel, fertilizer, and labor. It combines favorable soil quality, growing season, and moisture supply and, under careful management, can be farmed continuously and at a high level of productivity without degrading either the environment or the resource base. Prime farmland does not include land already in or committed to urban development, roads, or water storage.

Reservoir Operations tracts - Prior to the reservoir lands planning process (1979), TVA made land-use decisions based on a forecast system approach. The term *reservoir operations* was used to identify specific TVA land where the field District Manager had been given the authority by the TVA Board of Directors to approve or deny minor shoreline alterations requested by adjacent private landowners. In cases where property owners had no rights of ingress or egress across TVA property but owned land adjacent to a Reservoir Operations tract, the agency could provide a letter permit, allowing the property owner the right to construct

preapproved private shoreline improvements. In most cases, TVA retained the right to request the removal of the improvements upon 30 days' written notice. If the property owner did not comply within the designated grace period, TVA could remove them at the owner's expense.

During TVA's formative years (1930s and 1940s) when public land was more abundant, the agency wanted to assist in providing recreation access to the reservoir wherever feasible. Reservoir Operation tracts provide this opportunity and are disbursed throughout the entire TVA Valleywide reservoir system. Some reservoirs had few, while others had large numbers of these tracts. Under the forecast system, Reservoir Operation tracts and other land uses were selected by TVA staff with no formal public participation or external involvement.

Over the years, TVA has sold, transferred, or otherwise committed both large and small blocks of public land. Today TVA is at a point where the agency has only scattered remnants of land remaining for public use and other benefits. TVA's initial reservoir land base of 600,000 acres above normal pool elevation has been reduced Valleywide to less than 80,000 acres of uncommitted public land. Because of increased public pressure placed on TVA's shrinking land resources, the agency no longer recognizes Reservoir Operation tracts as a viable land use. In 1993, a policy decision was made that any undeveloped areas designated as Reservoir Operations would remain undeveloped.

All uncommitted TVA land, including Reservoir Operation tracts, are included as planned land under TVA's current reservoir land management planning process. There were 58 tracts around Melton Hill formerly identified for Reservoir Operations. Collectively these tracts account for 450 acres of TVA public land on Melton Hill Reservoir.

residential access - Prior to development of the Melton Hill Reservoir plan, TVA permitted owners of private land which adjoined certain parcels of TVA land to construct and maintain facilities for private use. These facilities, some of which are boat docks, boat houses, picnic shelters, decks, walkways, sea walls, and landscaping, were only permitted under certain conditions and at certain locations. Consistent with this plan's objectives to determine the most suitable use for remaining public reservoir land, TVA will continue to consider such requests for private use only on selected parcels or portions of parcels where such use was previously considered and where the proposed use will not conflict with the interests of the general public. The Alternative B map and parcel descriptions identify where TVA will consider requests for such improvements. On some parcels where such improvements have been permitted in the past, no new requests will be considered. Existing improvements which have not been formally approved by TVA will either be officially permitted (where the parcel descriptions indicate that additional requests will be considered) or will be dealt with as violations, as the parcels indicate. Consideration of future requests on tracts so identified in the plan will be handled on a case-by-case basis and will be reviewed by appropriate TVA staffs, specifically including—but not limited to—cultural resources, heritage, and navigation operations. Further investigation or mitigation of adverse impacts to natural or cultural resources may be required before approval of individual requests for private shoreline improvements.

riparian zone - an area of land that has vegetation or physical characteristics reflective of permanent water influence. Typically a streamside zone or shoreline edge.

riprap - stones placed along the shoreline for bank stabilization and other purposes.

riverine - having characteristics similar to a river.

Section 26a review process - Section 26a of the TVA Act requires TVA review and approval of plans for obstructions such as docks, fills, bridges, outfalls, water intakes, and riprap before they are constructed across, in or along the Tennessee River and its tributaries. Applications for this approval are coordinated appropriately within TVA and USACE. USACE issues a joint public notice for those applications that are not covered by a USACE nationwide, general, or regional permit. The appropriate state water pollution control agency must also certify that the effluent from outfalls meets the applicable water quality standards.

scrub-shrub - woody vegetation less than about 20 feet tall. Species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions.

shoreline - the line where the water of a TVA reservoir meets the shore when the water level is at the normal summer pool elevation.

significant cultural resources - Some of the tract descriptions state that "the tract contains significant cultural resources" or that "cultural resource considerations may affect development of the tract." However, many of the parcel descriptions contain no reference to archaeological or other cultural resources. The lack of such references within a tract description does not necessarily indicate that significant cultural resources do not exist. The use of any tract for developmental purposes may require additional archaeological testing or mitigation of adverse impact to archaeological sites. The costs of required testing or mitigation would be the responsibility of the developer.

stratification - the seasonal layering of water within a reservoir due to differences in temperature or chemical characteristics of the layers.

substrates - the base or material to which a plant is attached and from which it receives nutrients.

summer pool elevation - the normal upper level to which the reservoirs may be filled. Where storage space is available above this level, additional filling may be made as needed for flood control.

tributary reservoirs - impoundments created by dams constructed across streams and rivers that eventually flow into the Tennessee River.

turbidity - all the organic and inorganic living and nonliving materials suspended in a water column. Higher levels of turbidity affect light penetration and typically decrease productivity of water bodies.

upland - the higher parts of a region, not closely associated with streams or lakes.

wetlands - as defined in *TVA Environmental Review Procedures*, "Wetlands are those areas inundated by surface or ground water with a frequency sufficient to support and under normal circumstances do or would support a prevalence of vegetation or aquatic life that requires saturated or seasonably saturated soil conditions for

growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, mud flats, and natural ponds.

4.4 Acronyms

AEC - Atomic Energy Commission

ARPA - Archaeological Resources Protection Act

BMPs (Best Management Practices) - a practice, or combination of practices, that has been determined, after problem assessment and examination of alternatives, to be the most effective, practical means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality.

cfs - cubic feet per second

CRM - Clinch River mile

DOE - Department of Energy

EA - environmental assessment

EDE - effective dose equivalent

EIS - environmental impact statement

IDT - interdisciplinary team

msc (maximum shoreline contour) - an elevation typically 5 feet above the top of the gates of a TVA dam. It is often the property boundary between TVA property and adjoining private property.

msl - mean sea level

NAGPRA - Native American Graves Protection and Repatriation Act

NEPA (National Environmental Policy Act) - legislation signed into law in 1970 which, among other provisions, requires U.S. government agencies to prepare environmental reviews on proposed policies, procedures, plans, approvals, and other proposed federal actions. Approval of a private water-use facility or sale of an easement to use federal land are examples of federal actions subject to NEPA.

NHPA - National Historic Preservation Act

PCBs - polychlorinated biphenyls

PSD - Prevention of Significant *Deterioration*

SAHI (Shoreline Aquatic Habitat Index) - the index used to determine quality of shoreline aquatic habitat, based on seven characteristics important to support good populations of sport and commercial fish.

SMC - Species of Management Concern

SMI (Shoreline Management Initiative) - an assessment of residential shoreline development impacts in the Tennessee Valley. TVA is completing an EIS on residential shoreline development impacts throughout the Tennessee Valley

TDEC - Tennessee Department of Environment and Conservation.

TVA - Tennessee Valley Authority

TWRA - Tennessee Wildlife Resources Agency

USACE - U.S. Army Corps of Engineers

USDA - U.S. Department of Agriculture

USEPA - U.S. Environmental Protection Agency

USFWS - U.S. Fish and Wildlife Service

4.5 References

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APPENDIX A

FLOWAGE EASEMENT RIGHTS

Flowage Easement Rights

1. The right to cover all or any part of said land with water at any time in the operation of Melton Hill Dam or from the erection and/or operation of any other structures across the Clinch River.

2. The right to enter upon said land from time to time and to clear, destroy, or dispose of any timber or other natural growth and any structures, accumulations, trash, filth, or any other thing which, in the sole judgment of TVA, would in any way interfere with navigation or flood control or the production or transmission of electric power and energy or tend to render inaccessible, unsafe, or unsanitary either the waters of the Clinch River or of Melton Hill Lake or the margin thereof.

3. The right to enter upon said land and clear, ditch, dredge, drain, apply larvicides and chemicals thereon, and carry on bank protection and other work as in the discretion of TVA may be necessary or desirable in carrying out an adequate program of mosquito control.

4. The right to enter upon said land and excavate, clear, erect structures, and do such other things as are necessary and desirable in connection with the needs of navigation.

5. The right to maintain any existing boundary and transfer lines and silt range stations upon said land.

APPENDIX B

SCOPING DOCUMENT

Melton Hill Reservoir Land Management Plan

Scoping Report

TVA

Introduction

From May 27 through June 27, 1997, TVA sought comments from citizens and recreational users of the Tennessee Valley regarding TVA's management of the Melton Hill Reservoir, projected over the next 10 years. To facilitate public involvement, citizens were invited to complete a written questionnaire (Appendix). The questionnaire was sent to individuals who called 1-800-TVA-LAND and requested to be placed on the Melton Hill lands planning list, or hand-distributed to those who visited the Melton Hill Land Management office during the comment period. Questionnaires were also distributed to people using TVA day use areas or local sporting good stores.

In conjunction with the vital input contained in this report, other public agency reviews and TVA staff recommendations will be used to prepare a ten-year plan focusing on how specific parcels of land will be used. This initial public involvement phase will not be the last time citizens can provide comment since they will also be given an opportunity to evaluate the Melton Hill Draft Environmental Assessment.

The objective of this initial public involvement phase was to analyze public comments which will serve as a decision making tool for TVA staff. The University of Tennessee's Human Dimensions Research Laboratory also provided data concerning outdoor recreation. Researchers from the university randomly selected households from the following counties: Anderson, Blount, Campbell, Loudon, Knox, Morgan, Roane, and Scott. This report summarizes 175 TVA-distributed questionnaires and is supplemented by the data provided by the University of Tennessee.

Reservoir Visitation

The majority (84%) of respondents indicated that they have used TVA public lands around the Melton Hill Reservoir within the past year. Respondents also reported that they visited TVA public lands an average of 37 times per year.

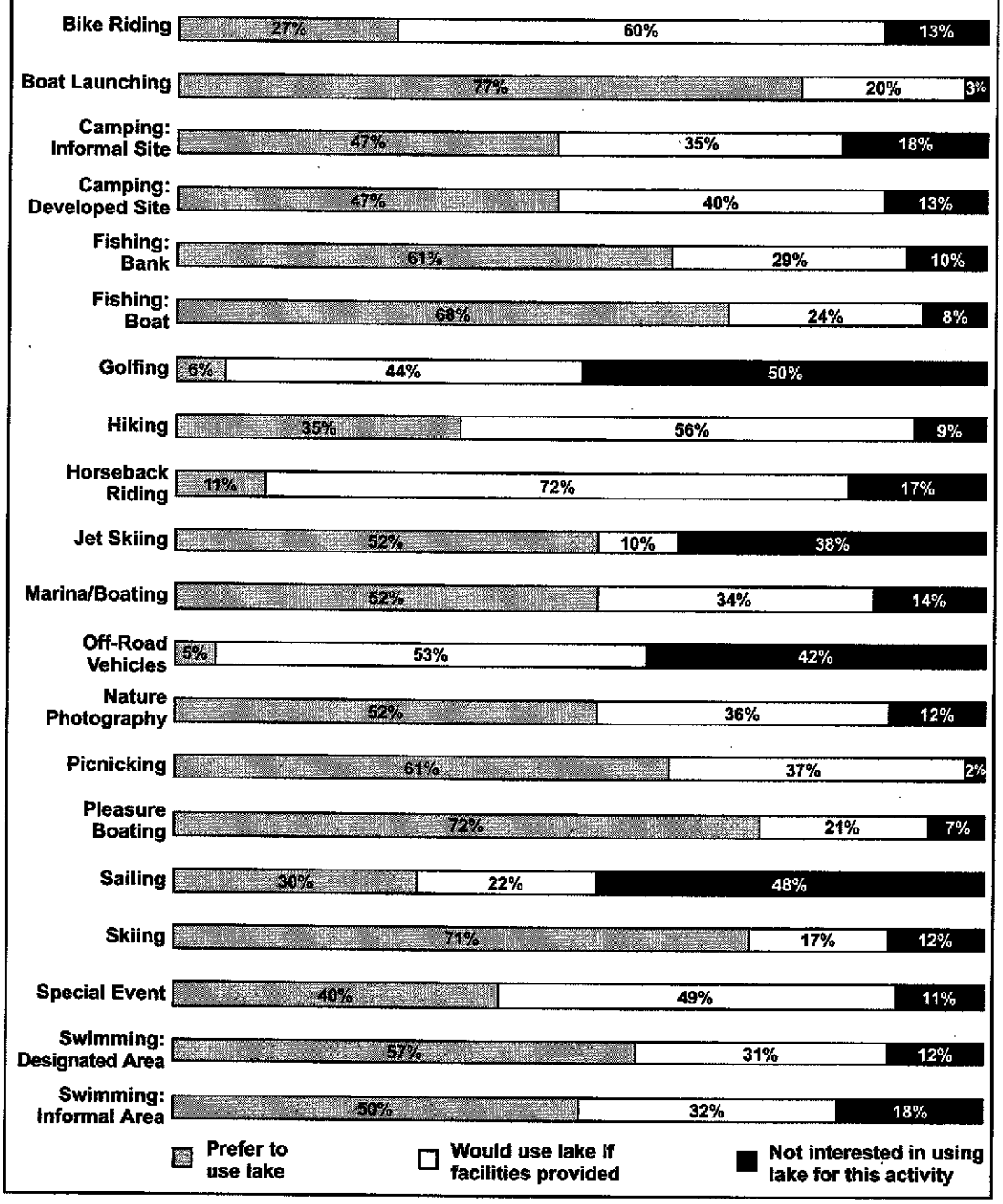
For more information regarding the Melton Hill Reservoir Land Management Plan, contact:

Pat Becker
Land Use Specialist
2000 Grubb Road
Lenoir City, TN 37771
(423) 988-2442

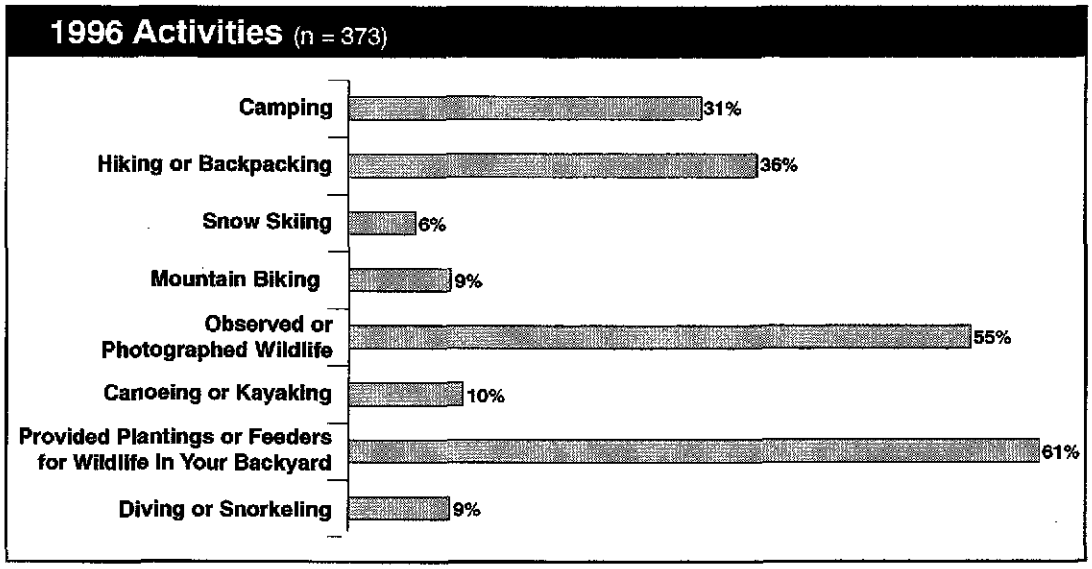
Activity Preference

Between 71 and 77 percent of all respondents indicated they use Melton Hill and the surrounding land for boat launching, pleasure boating, or water skiing. Over 53 percent of all respondents reported, if the appropriate facilities were provided, they would participate in the following recreational activities: hiking, bike riding, horseback riding, off-road vehicle driving or special events.

Frequency of Activity Preferences



The data from the University of Tennessee showed, within the past year, many potential Melton Hill Lake users observed, photographed, and provided plantings/feeders for wildlife.



Additional data from the University of Tennessee revealed that an average of 26 percent of Melton Hill respondents fished, and the majority (65%) of fishing trips occurred on a reservoir. Also, a total of 23 percent of all respondents indicated that they owned a boat. Respondents reported that they primarily used their boat for fishing.

Fishing	1993	1994	1995	1996	Total
Did you fish in Tennessee between Sept. 1 and Feb. 28?	(n = 370) 24%	(n = 351) 26%	(n = 442) 24%	(n = 334) 30%	(n = 1497) 26%
Did you fish in:	(n = 90)	(n = 91)	(n = 106)	(n = 102)	(n = 389)
Farm ponds or small lakes	37%	37%	38%	40%	38%
Trout streams	23%	24%	27%	23%	24%
Warm water streams	18%	23%	18%	13%	18%
Reservoirs	69%	68%	64%	62%	65%
Avg. # trips to reservoirs	18	15	15	19	17

Scoping Report

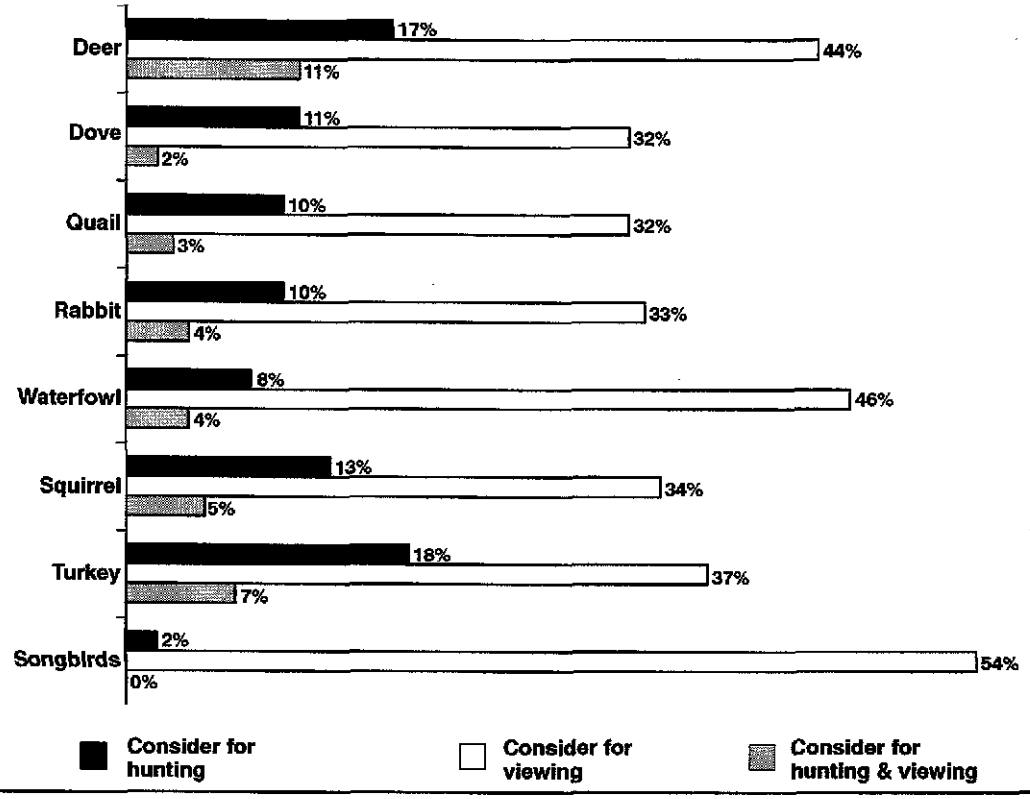
Boating in 1996 (n = 334)

Do you own a boat?	23%	**Primary use**	
Type of boat (n = 42)		Cruising	29%
Manually propelled boat	8%	Skiing	15%
Power boat	86%	Fishing	34%
Both	6%	Combination of uses	22%
Miles traveled to usual launch site		**Non-fishing trips**	
Avg. # of miles	23	Avg. # times	11
Range	1 - 115	Range	0 - 100

Managing Habitat

Whether they hunt or view wildlife, respondents were asked to select the species they felt TVA should consider when managing habitats. The results revealed that turkey, deer, and squirrel were the preferred animals for hunting. In addition, deer, waterfowl, and songbirds were the most popular species to view.

Hunting and Viewing Considerations



According to the data from the University of Tennessee, of all respondents from the Melton Hill area, an average of eight percent reported they hunted between 1993 and 1996. Deer and squirrel were the most hunted species.

Hunting Survey

	1993	1994	1995	1996	Total
Did you hunt in Tennessee between Sept. 1 and Feb. 28?	(n = 315) 8%	(n = 458) 7%	(n = 374) 8%	(n = 373) 7%	(n = 1520) 8%
Did you hunt:	(n = 26)	(n = 33)	(n = 31)	(n = 28)	(n = 118)
Deer Avg. # days hunt	80% 11	71% 13	63% 12	68% 5	70% 11
Squirrel (Fall season) Avg. # days hunt	30% 9	64% 15	44% 7	52% 7	48% 11
Dove Avg. # days hunt	16% 9	17% 5	46% 3	23% 6	25% 5
Quail Avg. # days hunt	19% 10	15% 7	14% 4	3% 7	13% 7
Raccoon Avg. # days hunt	4% 10	10% 42	10% 19	9% 7	8% 25
Duck Avg. # days hunt	0% ***	12% 8	11% 3	6% 10	8% 7
Rabbit Avg. # days hunt	16% 18	40% 6	34% 8	34% 6	32% 8
Grouse Avg. # days hunt	7% 3	16% 14	17% 3	9% 7	12% 8
Geese Avg. # days hunt	0% ***	8% 14	7% 8	6% 10	6% 11
Bear Avg. # days hunt	0% ***	0% ***	4% 14	0% ***	1% 14
Wild boar Avg. # days hunt	4% 5	15% 5	13% 10	3% 2	9% 7
Did you hunt in Tennessee between Mar. 1 and Aug. 31?	(n = 370) 4%	(n = 351) 3%	(n = 442) 4%	(n = 334) 4%	(n = 1497) 4%
Did you hunt:	(n = 13)	(n = 9)	(n = 14)	(n = 12)	(n = 48)
Squirrel (Spring season) Avg. # days	91% 3	36% 3	37% 9	51% 6	54% 4
Coyote Avg. # days	N/A	0% ***	24% 2	0% ***	9% 2
Groundhog Avg. # days	N/A	9% 5	39% 6	29% 4	29% 5
Crow Avg. # Days	N/A	23% 13	16% 10	21% 2	20% 9
Turkey Avg. # Days	56% 4	12% 7	29% 11	29% 8	31% 7

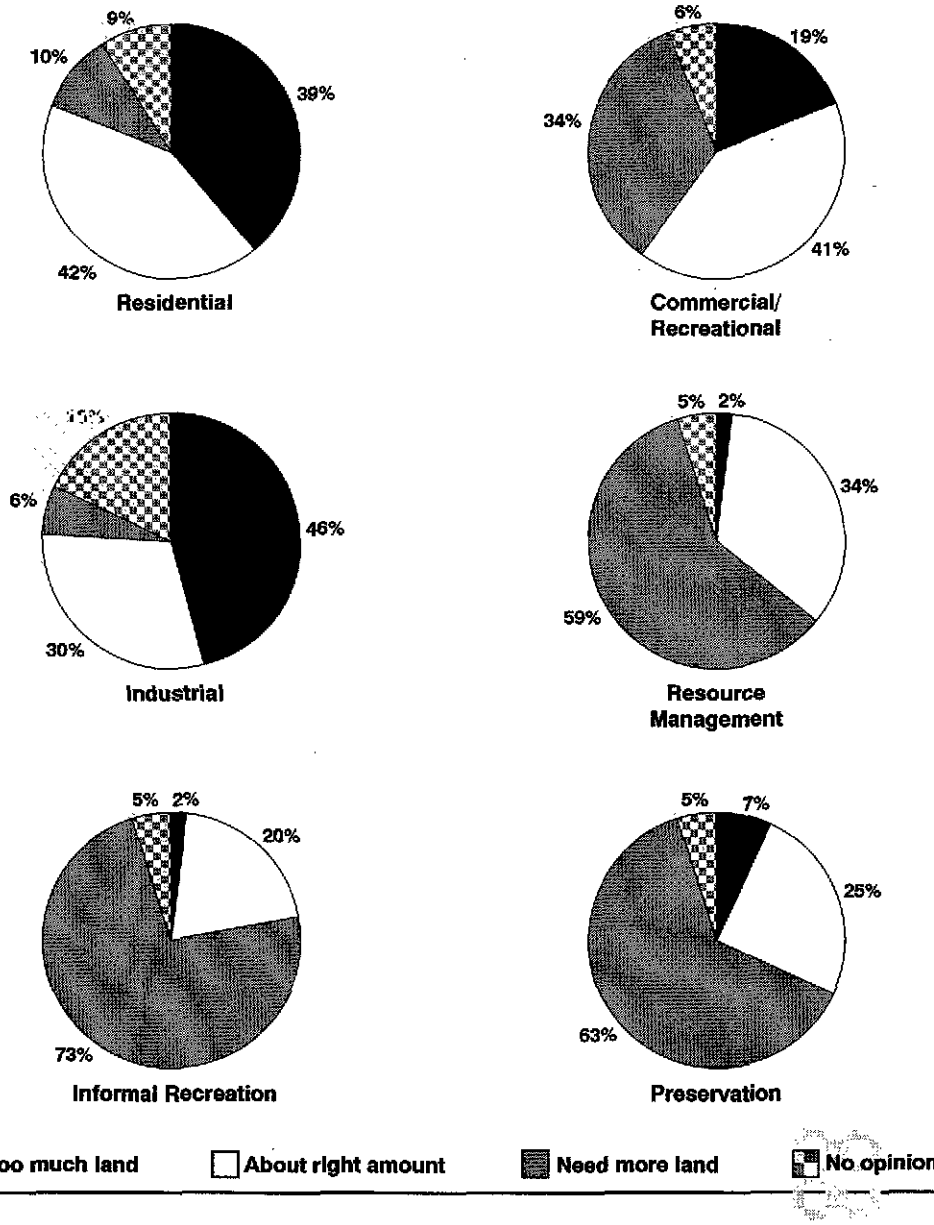
Scoping Report

Allocation of Land

Respondents were asked to report their preferences concerning the allocation of public land for specific uses. Land uses included residential, commercial/recreational, industrial, resource management, informal recreation, and preservation. The respondents identified how they felt about the amount of land already devoted to specific uses.

Respondents to this study have focused their concerns on reducing industrial development, while keeping residential and commercial/ recreational development steady, and increasing development of resource management, informal recreation, and preservation areas.

Land Uses



Planning Priorities

Respondents were asked to identify what level of priority TVA should place on a variety of facilities, areas, and/or services. The respondents expressed that TVA should place hiking trails, informal and public recreation areas, the management of habitats, erosion control, water quality boat ramps, and the preservation of natural areas, cultural artifacts, endangered species, public land with unique natural features, historic sites, and wetlands as a high priority Brochures/signs, full-service campgrounds, picnic areas, public fishing piers, study areas, and swimming beaches were considered to be a medium priority They also expressed that boat stack storage, primitive campgrounds, industrial/economic development, paved hiking trails, interpretive centers, overnight lodging, and amphitheaters should be a low priority Furthermore, the respondents felt that TVA should have no involvement in theme parks and timber production.

Land Uses

Facilities, Areas, Services	High Priority	Medium Priority	Low Priority	No TVA Involvement	No Opinion
Brochures/Signs	22%	38%	29%	5%	7%
Full Service Campgrounds	26%	31%	27%	11%	6%
Primitive Camping	25%	31%	33%	6%	5%
Boat Storage	5%	7%	38%	35%	16%
Hiking Trails	43%	35%	12%	5%	5%
Industrial Development	9%	11%	40%	34%	7%
Informal Recreation	41%	33%	15%	5%	6%
Interpretative Centers	14%	31%	34%	16%	5%
Managing Habitats	49%	28%	11%	6%	5%
Lodging	16%	25%	28%	27%	4%
Paved Trails	24%	27%	33%	12%	5%
Picnic Areas	30%	39%	24%	4%	3%
Natural Areas	59%	28%	8%	3%	3%
Cultural Artifacts	53%	24%	9%	9%	5%
Endangered Species	62%	17%	10%	7%	4%
Public Land with Unique Natural Features	66%	20%	6%	5%	4%
Historic Sites	58%	27%	5%	5%	5%
Wetlands	57%	22%	9%	6%	6%
Piers	30%	34%	25%	6%	5%
Public Recreation Areas	38%	35%	19%	7%	2%
Study Areas	34%	35%	21%	6%	4%
Erosion Control	57%	23%	13%	4%	3%
Swimming Beaches	24%	41%	26%	7%	3%
Theme Parks	4%	8%	27%	57%	3%
Timber Production	9%	11%	35%	41%	5%
Amphitheater	6%	12%	41%	33%	8%
Water Quality	79%	11%	5%	4%	2%
Boat Ramps	37%	29%	23%	6%	5%

Note: Highlighted areas indicate majority preference for that facility, area, or service.

Scoping Report

The final three survey questions were presented using an open ended format. Respondents were asked what they valued most about Melton Hill Reservoir, what major problems or issues needed to be addressed over the next ten years, and which features (man-made or natural) respondents preferred to see when looking at the land around the reservoir. Responses from these open ended questions were combined to reveal various themes which are reported in the tables below. Referring to the table, the number in the far right box reports the number of times a comment was provided. Respondents could make several different comments per question.

Most respondents showed concern toward future over-development, trash and litter, water quality conditions, erosion, and fluctuating water levels. Many desired to preserve land in a natural condition and retain access to pub land. Many expressed valuing natural resour and public land related features. Additionally, numerous respondents emphasized the natural aesthetic conditions of the land arou the lake. Comments relating to recreation varied from requests for increased formal an informal recreation opportunities to safety an conflicting use patterns.

Aesthetics/Scenic Beauty	
Natural/scenic/natural beauty.	48
The presence of wildlife.	16
The absence of development.	16
Woodlands, forested areas, trees, wildflowers.	14
Absence of trash, litter, and pollution.	8
Clean, neat, well maintained residential areas within a natural surrounding.	4
Privacy/peacefulness/quiet.	3
Absence of commercial development.	2
I like mountains.	2
Well maintained pastures.	2
I like green grass.	1
Presence of natural resources.	1
Nice docks, recreational facilities.	1
95% natural and 5% man-made.	1
Nice homes, new industry, Bull Run Steam Plant.	1
Melton Hill is the prettiest lake in the TVA system.	1
Subtotal	**121**
Culture	
I value Tennessee history and cultural values associated with the natural environment.	2
Subtotal	**2**
Development	
Limit/control future development	
Exert control over development. Keep things simple, small amount only.	10
Limit commercial development.	4
Keep the land and shoreline mostly unspoiled and undeveloped.	4
Monitor residential growth and maintain a balance between residential development and natural areas.	4
Keep residential development at a low level, do not allow crowding.	2
Establish a balance between natural recreational land and residential and commercial land.	2

Decisions impacting the environment must be in conjunction with future expansion from the DOE side. TVA should meet with DOE to discuss developments.	2
Manage growth, plan growth that would benefit the region both economically and recreationally.	1
Development needs to be closer to Oak Ridge. The right facility would be a gold mine.	1
Allow a diversity of housing types. Do not allow "Native American" or public housing.	1
Do not allow polluting industry or other development that harms the environment.	1
Hydroelectric plants will be a problem.	1
Clean industry, which would create jobs is important, but not too much near the parks.	1
Expansion should be on the Knox County side.	1
There is conflict between development and shoreline management.	1
Subtotal	**36**
Oppose further development	
Over crowding and commercialism of the lake is a major concern.	15
Do not allow any further residential development. No more subdivisions.	14
Do not allow any further development. Fight developers.	10
Do not allow any further commercial/industrial development.	9
Preserve the land from residential, industrial development, and/or highway construction. Development will ruin water, wildlife, landscapes, etc.	8
No theme parks.	3
Too many houses and commercial development will cause major problems.	3
Do not allow any more commercial development, and only small amounts of residential development.	2
Subtotal	**64**
Support development	
You need to allow for more commercial/industrial development. DOE needs to release more land also.	1
Rights to have private land-use facilities are important.	1
TVA should attract large resort and/or convention center.	1
Subtotal	**3**
Questions	
Will the Boeing site (Area 0), which is 1500 undeveloped acres, be considered for industrial development?	1
Subtotal	**1**
Milfoil	
I think Milfoil would help fishing on Melton Hill by providing cover.	3
Stop spraying for Milfoil.	2
Subtotal	**5**
Natural Resource Issues	
I value wildlife and other natural resources. They should be protected for future generations. Natural resources are why people come to this area.	16
Preserve the land in a natural condition/natural setting.	16
I value keeping lots of trees. Keep land forested.	14
Preserve wetlands.	6
Manage for wildlife and fish.	5
Endangered species should be restored in this area to live and thrive safely.	3

Scoping Report

Maintain a balance between recreation and nature.	3
I value all of the birds.	3
Exotic species (kudzu, etc.) are a problem and should be controlled.	3
Protect the natural landscape.	2
Preserve wild flowers.	2
Protecting the land helps protect water quality and reduce erosion.	1
Keep people out of natural areas.	1
Melton Hill has good quality farmland for now.	1
I like the trees, clean water, abundant fishing.	1
More greenway along Melton Hill would be tremendous.	1
Keep in a natural state, only interfere to correct problems that man has created.	1
We need well designed timber harvests to promote wildlife.	1
I like grasslands.	1
Consider habitats for over-population as well as under population.	1
Subtotal	**82**
Public Land Values	
People should be free to use public land without fear of reprisal. Public land should be open for public enjoyment. Keep public access.	15
Public lands are a place to enjoy peace of mind, quietness away for civilization, to enjoy the company of family and friends, to get away and relax, to recreate and enjoy a back to nature feel.	12
Keep public land public/do not privatize and/or sell. They are not making any more public land, keep what we have.	7
I value a clean, quiet, natural area so close to home.	6
Public land should be preserved for future generations to enjoy.	4
There is nowhere else anyone can go to enjoy the outdoors.	2
People have been blessed to have this wonderful public resource.	1
TVA should concentrate on stewardship of public land.	1
I like the grassy areas to park under the trees to picnic or fish.	1
Melton Hill is a safe place to go.	1
Private landowners should not restrict public access on TVA land.	1
Subtotal	**51**
Recreation Issues	
Formal Recreation	
We need more campgrounds.	8
There needs to be more beaches, parks, and campgrounds for families to enjoy.	8
We need more/better boat launching facilities and fishing piers for seniors.	7
We need more showers, restrooms, electric hook-ups, sewage, and water.	6
We need more full-service marinas.	5
We need an archery range.	4
We need more picnic areas.	4
We need more parking areas.	3
We need more playground equipment.	2
Campground with 24 hour guard service, no alcohol, no weapons.	2
All concrete campsite tables are needed.	2

We need an interpretive center and study areas like Ijams Nature Center.	2
We need cottage areas/cabins for rent.	2
We need more boat launching facilities.	2
You need to upgrade parks and launching areas that are now in use.	2
Campground and recreation areas should be natural looking, not to detract from the natural setting.	1
Need no-wake zone at Melton Hill Marina.	1
Need more access to fishing spots instead of dirt roads.	1
Need ecologically sound recreational zones.	1
Need improvement around Oak Ridge Marina for water sport competitions.	1
Melton Hill is close to Oak Ridge, but pleasant for camping.	1
We need more primitive campgrounds.	1
Lakefront access is mostly for automobiles and boat launchers.	1
We need more golf and sporting clay courses.	1
More tent space and areas for smaller motor homes and trailers. The large motor homes should have their own place.	1
We need a public golf course.	1
There is no area set aside for non-motorized boats.	1
We need areas where canoes can launch.	1
We need swimming areas.	1
We need full hook ups at Melton Hill Dam campgrounds.	1
Over-use of facilities and areas is a problem.	1
Need widening of river below Elza Gate railroad bridge to provide a FISA race course.	1
Subtotal	**76**
Informal Recreation	
I value informal recreation, like swimming, hiking, viewing wildlife, boating.	15
We need more hiking, horse, and walking trails.	9
We need more fishing opportunities.	9
We need mountain bike trails like the ones in Norris.	4
This is a good place to walk, run, and view wildlife.	2
I do not believe in hunting.	2
I value the hunting areas.	2
I value all the excellent fishing.	2
I enjoy the lake via kayaking.	2
Stock more rock fish.	1
We need trash cans at informal recreation sites.	1
Ability to hike without worrying about getting lost.	1
Where are the marked hike or bike trails?	1
I like bow hunting.	1
You should only allow bow hunting on Melton Hill. I'm sure homeowners don't like hearing guns go off.	1
We need more hunting areas.	1
Subtotal	**54**
Conflicting Uses	
Watercrafts are creating over crowding conditions.	7
Jet skies are causing problems. Need more laws.	6

Scoping Report

Hunters sometimes hunt in the wrong areas.	2
Viewing wildlife will be a problem if people keep killing them.	1
People gathering to drink alcohol at the boat launch on the weekends.	1
Sportsman-like conduct is needed on and around the water.	1
The Melton Hill Rowing Association is dominating the navigable waterway.	1
Post signs, "not responsible for swimming without lifeguards".	1
People under the influence of drugs/alcohol disregard beauty of the land.	1
Subtotal	**21**
Other	
Charge a fee for day use areas, not just camping.	2
The dams should be kept the way they are.	2
Channels are not marked.	1
Need more recreational areas/space.	1
I like safety patrols.	1
Melton Hill has good boat access.	1
Subtotal	**8**
Shoreline Erosion	
Erosion is a major concern.	8
TVA should do more to control erosion.	3
Uncontrolled development is causing erosion.	2
Rip rap is acceptable if it is to control/prevent erosion.	1
Erosion and pollution from industry and residential property.	1
Subtotal	**15**
Survey	
How am I to know what part of your lands now go to each use?	1
Please provide survey forms to Oak Ridge Public Library.	1
Subtotal	**2**
Trash and Litter Concerns	
I value the cleanliness around Melton Hill.	11
Trash is a major concern on Melton Hill Lake.	7
TVA should control the trash and litter problem.	5
Keep Melton Hill clean.	2
There is a lot of trash behind the dam.	1
More education about trash and litter is needed/more clean up programs.	1
Litter laws need to be enforced.	1
Keep shoreline clear of litter.	1
Put out more trash cans.	1
Subtotal	**30**
TVA	
State or local government should manage the majority of our public land.	2
Government control of private land worries me. TVA's only concerns should be flood control and the production of power for local use.	2
TVA's lack of funds worries me.	2
TVA is doing a great job.	1

It appears to be well managed and offers opportunity for public input.	1
TVA must come to terms with the local governments and developers to develop lakefront property for the long term economic interests of East TN.	1
If DOE frees up any land on the north shore, TVA needs to take it. We would prefer that this land be left as is.	1
TVA needs to listen to the public.	1
Thank you for the chance to provide public input.	1
Fishermen and hunters are the people who pay for facilities on the lakes and the land. The people who live on the lake pay very little money to support the facilities, yet they have more say in things.	1
Melton Hill is managed appropriately.	1
Need to determine needs and address in long range plan to prevent overcrowding of facilities. Limit impact through good design.	1
We appreciate TVA land.	1
TVA should not be in the recreation business.	1
Subtotal	**11**
Water Levels	
Unable to put in at dam because of high water level.	1
Water levels need to be maintained at a constant level. This will help with erosion.	1
Subtotal	**2**
Water Quality Concerns	
Pollution into the waterways is a major concern.	21
Chemical discharge from industry is causing water quality problems.	13
More needs to be done to control water quality problems.	9
Clean up water quality problems so that the fish can be eaten.	7
Water quality problems are caused by urban and agricultural drainage from fertilizers, sewage, and pesticides.	3
I live on Bull Run Road and twice during the past year I have seen a septic truck at the boat ramp late at night dumping waste.	1
Keep Clinton City from dumping trash, garbage, and sewage.	1
Keep farmers from dumping pesticides and spent oil into the river.	1
Water pollution negatively effects wildlife.	1
Water pollution prevents people from swimming in the lake.	1
TVA must resolve the issue of improving water quality while giving cattle farmers access to drinking water.	1
Pollution from Oak Ridge.	1
Water is clean (before it reaches Clinton).	1
Run-off is causing water quality problems.	1
Subtotal	**62**
Total of all comments	**646**

Appendix

Melton Hill Lake Questionnaire

WHAT DO YOU THINK ABOUT MELTON HILL LAKE?

1. Have you used TVA public areas around Melton Hill Lake within the past year? Yes_____ No_____
   If Yes, how many times in a year do you use or visit those public lands? _____

2a. Which of the following outdoor recreational activities do you participate in most?

2b. For any activities in which you participate, please check one of the following:

(Please check all that apply)	Prefer to use Melton Hill Lake for this activity	Would use Melton Hill Lake if proper facilities and opportunities were provided	Not interested in using Melton Hill Lake for this activity
_____ Bike riding	☐	☐	☐
_____ Boat launching	☐	☐	☐
_____ Camping-not in a formal campground	☐	☐	☐
_____ Camping in a developed campground	☐	☐	☐
_____ Fishing—bank	☐	☐	☐
_____ Fishing—boat	☐	☐	☐
_____ Golfing	☐	☐	☐
_____ Hiking	☐	☐	☐
_____ Horseback riding	☐	☐	☐
_____ Jet skiing	☐	☐	☐
_____ Marina/boating	☐	☐	☐
_____ Off-road vehicles (ATV, Jeep, etc.)	☐	☐	☐
_____ Nature photography	☐	☐	☐
_____ Picnicking	☐	☐	☐
_____ Pleasure boating	☐	☐	☐
_____ Sailing	☐	☐	☐
_____ Skiing	☐	☐	☐
_____ Special event/festival/homecoming, etc.	☐	☐	☐
_____ Swimming - designated (beach park, etc.)	☐	☐	☐
_____ Swimming - informal areas	☐	☐	☐
_____ Other (please specify)	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐

1

Scoping Report

3. If you view or hunt wildlife on public land around Melton Hill Lake, please check the wildlife species that you think TVA should consider when managing habitat. (Please check all that apply)

SPECIES	Hunt	view	SPECIES	Hunt	view
Deer	☐	☐	Squirrel	☐	☐
Dove	☐	☐	Turkey	☐	☐
Quail	☐	☐	Songbirds	☐	☐
Rabbit	☐	☐	Other non-game Species_____	☐	☐
Waterfowl	☐	☐	Other _____	☐	☐

4. TVA is interested in your preferences concerning the allocation of public land for specific uses. How do you feel about the amount of land already devoted to these specific uses?

Land Uses	Too much land	About right amount	Need more land	No Opinion
Residential areas (subdivisions, docks, other shoreline structures associated with lakeside homes)	☐	☐	☐	☐
Commercial recreation areas (commercially operated marinas, resorts, campgrounds, etc.)	☐	☐	☐	☐
Industrial areas (barge terminals, ports, industrial parks, etc.)	☐	☐	☐	☐
Resource management areas (forests, wildlife areas, etc.)	☐	☐	☐	☐
Informal recreation areas (hiking trails, bike trails, primitive camping, etc.)	☐	☐	☐	☐
Preservation areas (wetlands, cultural, endangered species, etc.)	☐	☐	☐	☐
Other purposes (please specify)	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐

2

5. Does Melton Hill Lake need any (or more) of the facilities, areas, and/or services listed below? If so, what level of priority should TVA place on it? (Please respond to all categories.)

Facilities, Areas, Services	High Priority	Medium Priority	Low Priority	No TVA Involvement	No Opinion
Brochures and signs directing the public to natural areas	☐	☐	☐	☐	☐
Campgrounds Full-service (electric, water, sewer, etc.)	☐	☐	☐	☐	☐
Camping Primitive (no hookups)	☐	☐	☐	☐	☐
Commercial boat stack storage	☐	☐	☐	☐	☐
Hiking trails (dirt path)	☐	☐	☐	☐	☐
Industrial and economic development	☐	☐	☐	☐	☐
Informal recreation (hiking, biking, horse trails, etc.)	☐	☐	☐	☐	☐
Interpretive centers/museums	☐	☐	☐	☐	☐
Manage wildlife habitat (both for hunting and wildlife observation)	☐	☐	☐	☐	☐
Overnight lodging—cabins, cottages, resort lodge, etc.	☐	☐	☐	☐	☐
Paved hiking trails, signs, and observation towers	☐	☐	☐	☐	☐
Picnic pavilions/picnic areas	☐	☐	☐	☐	☐
Preserve natural areas/open space	☐	☐	☐	☐	☐
Protect cultural artifacts	☐	☐	☐	☐	☐
Protect endangered species	☐	☐	☐	☐	☐
Protect public land that has unique natural features	☐	☐	☐	☐	☐
Protecting historic sites	☐	☐	☐	☐	☐
Protecting wetlands	☐	☐	☐	☐	☐
Public fishing piers	☐	☐	☐	☐	☐
Public recreation areas (campground, parks, etc.)?	☐	☐	☐	☐	☐
Set aside ecological study areas for local schools or universities	☐	☐	☐	☐	☐
Shoreline erosion control	☐	☐	☐	☐	☐
Swimming beaches	☐	☐	☐	☐	☐
Theme parks (Dollywood or Disney type)	☐	☐	☐	☐	☐
Timber production	☐	☐	☐	☐	☐
Upscale amphitheater	☐	☐	☐	☐	☐
Water quality protection	☐	☐	☐	☐	☐
Year-round boat ramps with parking	☐	☐	☐	☐	☐

3

Scoping Report

6. What do you value most about TVA land around Melton Hill Lake?

7. Over the next ten years what will be the major problems or issues that must be dealt with regarding TVA's management of Melton Hill Lake?

8. What features (man-made or natural) do you want to see when looking at the land around this reservoir?

If you would like to be added to TVA's mailing list to receive more information about the Melton Hill Reservoir Land Management Plan, the results of survey and other related TVA Land Management issues, please write in your name and complete mailing address.

NAME:_____

ADDRESS:_____

CITY:_____ STATE:_____ ZIP:_____

4

APPENDIX C

FORECAST DESIGNATIONS

Table C-1 - Forecast Designations for Melton Hill Reservoir*

Tract	Forecast Use	Acres
1R	Dam Reservation	79.2
2R	Dam Reservation	246.8
3R	Reservoir Operations	15.9
4R	Public Recreation	0.7
5R	Reservoir Operations	20.4
6R	Safety Landing	4.4
7R	Reservoir Operations	2.0
8R	Public Recreation	252.3
9R	Public Recreation	14.1
10R	Reservoir Operations	4.2
11R	Public Recreation	2.2
12R	Reservoir Operations	18.9
13R	Reservoir Operations	7.4
14R	Public Recreation	52.2
15R	Commercial Landing	14.5
16R	Reservoir Operations	4.2
17R	Public Recreation	15.4
18R	Reservoir Operations	11.4
19R	Safety Landing	2.0
20R	Reservoir Operations	4.6
21R	Reservoir Operations	0.9
22R	Commercial Landing	11.9
23R	Reservoir Operations	12.0
24R	Public Recreation	4.0
25R	Reservoir Operations	3.7
26R	Reservoir Operations	6.9
27R	Reservoir Operations-Islands	1.3
28R	Reservoir Operations	10.9
29R	Public Recreation	52.6
30R	Reservoir Operations	6.1
31R	Public Recreation	50.6
32R	Safety Landing	25.3
33R	Reservoir Operations	3.4
34R	Public Recreation	2.5
35R	Reservoir Operations	12.5
36R	Reservoir Operations-Islands	8.6
37R	Public Recreation	5.6
38R	Reservoir Operations	3.6
39R	Safety Landing	4.2
40R	Reservoir Operations	12.0
41R	Public Recreation	0.6
42R	Reservoir Operations	3.3
43R	Public Recreation	1.2
44R	Reservoir Operations	0.4
45R	Public Recreation	2.9

Tract	Forecast Use	Acres
46R	Reservoir Operations	1.6
47R	Reservoir Operations	4.8
48R	Public Recreation	0.5
49R	Reservoir Operations	2.8
50R	Public Recreation	36.0
51R	Commercial Landing	26.4
52R	Commercial Landing	20.5
53R	Reservoir Operations	1.1
54R	Commercial Landing	13.5
55R	Reservoir Operations	28.5
56R	Public Recreation	3.9
57R	Reservoir Operations	12.1
58R	Commercial Recreation	7.4
59R	Reservoir Operations	29.7
60R	Public Recreation	132.9
61R	Public Recreation	10.7
62R	Reservoir Operations	12.8
63R	Commercial Recreation	1.7
64R	Public Recreation	2.7
65R	Commercial Recreation (XTMHR-1L)	5.7
66R	Reservoir Operations	8.7
67R	Power Transmission System	133.9
68R	Reservoir Operations	1.0
69R	Public Recreation	52.7
70R	Reservoir Operations	3.7
71R	Reservoir Operations	3.7
72R	Industrial	0.8
73R	Industrial	3.1
74R	Industrial	2.7
75R	Industrial	2.1
76R	Industrial	8.5
77R	Industrial	612.2
78R	Industrial-Islands	18.1
79R	Industrial-Islands	42.7
80R	Industrial	47.5
81R	Safety Landing	2.1
82R	Public Recreation	1.8
83R	Public Recreation	26.6
84R	Industrial	7.7
85R	Commercial Landing	5.8
86R	Industrial	24.1
87R	Industrial	34.1
88R	Reservoir Operations	54.5
89R	Industrial	11.0
90R	Public Recreation	3.0
91R	Public Recreation	7.6
92R	Reservoir Operations	3.5

Tract	Forecast Use	Acres
93R	Public Recreation	9.2
94R	Public Recreation	6.4
95R	Reservoir Operations	5.1
96R	Public Recreation	1.7
97R	Public Recreation	6.4
98R	Public Recreation	3.8
99R	Reservoir Operations	4.5
100R	Public Recreation	7.7
101R	Reservoir Operations	2.1
102R	Reservoir Operations	1.1
103R	Public Recreation	10.2
104R	Reservoir Operations	7.0
105R	Industrial	13.8
106R	Commercial Landing	5.4
107R	Reservoir Operations	17.3
108R	Reservoir Operations	9.0
109R	Public Recreation	5.4
110R	Reservoir Operations	1.2
111R	Commercial Landing	0.5
112R	Reservoir Operations	4.8
113R	Reservoir Operations	6.9
114R	Reservoir Operations	0.1
115R	Reservoir Operations	2.0
116R	Reservoir Operations	2.6
117R	Reservoir Operations	3.9
118R	Reservoir Operations	1.0
119R	Commercial Landing	4.4
120R	Reservoir Operations	0.4
121R	Reservoir Operations	3.3
122R	Reservoir Operations-Island	15.3
123R	Industrial – Carden Farm	20.4
124R	Industrial – Carden Farm	117.1
125R	Industrial	174.0
126R	Industrial	180.6
127R	Reservoir Operations-Industrial	20.9
128R	Reservoir Operations	3.3
129R	Commercial Landing	0.6
130R	Reservoir Operations	2.0
131R	Industrial	6.3
132R	Reservoir Operations-Island	17.4
133R	Industrial	380.6
134R	Reservoir Operations	7.5
135R	Public Recreation	13.4
136R	Reservoir Operations	10.7
137R	Reservoir Operations	0.6
138R	Reservoir Operations-Islands	No land above 800-ft.
139R	Reservoir Operations	57.8

Tract	Forecast Use	Acres
140R	Reservoir Operations	2.3
141R	Public Recreation	778.0
142R	Reservoir Operations	0.2
143R	Public Recreation	22.0
144R	Reservoir Operations	1.0
145R	Public Recreation	18.5
146R	Reservoir Operations	1.2

*For complete listing of all Forecast uses, please see individual parcel descriptions in Volume II.

APPENDIX D

ALLOCATION OF COMMITTED LAND ON MELTON HILL RESERVOIR

Table D-1 - Allocation of Committed Land on Melton Hill Reservoir

Parcel	Allocation	Reason for Commitment	Acres
1	Project Operations	Melton Hill Dam Reservation	250.0
3	Sensitive Resource Management	Sensitive resources	5.4
9	Project Operations	Navigation safety landing	2.7
11	Sensitive Resource Management	Sensitive resources	62.4
14	Recreation	Hickory Creek Park	1.7
16	Recreation	Hickory Creek Park (Soccer fields)	6.3
22	Sensitive Resource Management	Sensitive resources	12.6
26	Project Operations	Navigation safety landing	1.9
28	Sensitive Resource Management	Sensitive resources	0.7
30	Sensitive Resource Management	Sensitive resources	11.4
36	Recreation	Knox County Park	5.5
37	Sensitive Resource Management	Sensitive resources	1.2
40	Sensitive Resource Management	Sensitive resources	99.1
45	Recreation	Guinn Road Park	3.8
48	Sensitive Resource Management	Sensitive resources	8.5
51	Recreation	Melton Hill Marina	0.7
54	Industrial/Commercial Development	Hazardous material training facility	0.1
55	Industrial/Commercial Development	Sewage disposal facility easement	0.3
59	Recreation	Shoreline fronting Haw Ridge Park	59.2
64	Sensitive Resource Management	Sensitive resources	3.1
66	Sensitive Resource Management	Sensitive resources	8.7
69	Sensitive Resource Management	Sensitive resources	1.4
71	Project Operations	Sewage pumping station	3.2
74	Project Operations	Shoreline fronting Bull Run Coal-fired Power Plant	20.1
78	Project Operations	Utility easement	0.1
79	Recreation	Anderson County Park	3.3
84	Recreation	Public recreation	11.4
85	Project Operations	Utility district	0.2
86	Sensitive Resource Management	Sensitive resources	27.7
87	Sensitive Resource Management	Sensitive resources	12.3
89	Sensitive Resource Management	Sensitive resources	43.5
91	Recreation	City of Oak Ridge greenway	37.4
93	Sensitive Resource Management	Sensitive resources	8.4
95	Project Operations	Road right of way	0.5
98	Sensitive Resource Management	Sensitive resources	127.4
99	Sensitive Resource Management	Sensitive resources	109.9
101	Project Operations	Claxton fire station	0.6
107	Industrial/Commercial Development	Restaurant	6.1
108	Sensitive Resource Management	Sensitive resources	77.5
109	Sensitive Resource Management	Sensitive resources	20.3
112	Project Operations	Anderson County Utility Board	11.3
114	Sensitive Resource Management	Sensitive resources	33.0
115	Recreation	Anderson County public recreation	18.2
119	Recreation	Anderson County Conservation Board	10.3

Parcel	Allocation	Reason for Commitment	Acres
121	Sensitive Resource Management	Sensitive resources	11.3
133	Project Operations	Road right of ray	2.2
134	Sensitive Resource Management	Sensitive resources	7.3
135	Project Operations	Pumping station	0.1
138	Recreation	Town of Clinton public recreation	4.4
139	Project Operations	State of Tennessee - Highway improvement	1.0
142	Industrial/Commercial Development	Carden Farms Industrial Park	3.7
149	Sensitive Resource Management	Sensitive resources	20.2
152	Sensitive Resource Management	Sensitive resources	24.7
156	Sensitive Resource Management	Sensitive resources	1.9
158	Sensitive Resource Management	Sensitive resources	3.8

APPENDIX E

CRITERIA FOR RATING PARCELS

Table E-1 Recreation Capability/Suitability Criteria

Zones	Land Base	Forest-ation	Shoreline	Harbor Area	Reservoir Drawdown	Location	Road Access	Outside Interest	Land Use	Aesthetics	Land Ownership
ZONES 3, 4, 6, and 7	Not Applicable (NA)	NA	NA	NA	NA	NA	NA	NA	NA	High rating: visual appeal very pleasing	High rating: >5 miles public land ownership
River Corridors	NA	NA	NA	NA	NA	NA	NA	NA	NA	Medium rating: visual appeal slight	Medium rating: 3-5 miles of uninterrupted public land
	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low rating: visual appeal very poor	Low rating: < 3 miles public land ownership
ZONE 4	High rating: > 5 acres; < 15% slope	NA	High rating: easy access; use capability diverse	NA	NA	NA	NA	NA	High rating: adjoining land use compatible	NA	NA
Informal Recreation (Recreation pursuits on undeveloped land)	Medium rating: 2-5 acres; 15-20% slope	NA	Medium rating: fair access; use capability limited	NA	NA	NA	NA	NA	Medium rating: adjoining land use questionable	NA	NA
	Low rating: < 5 acres; > 20% slope	NA	Low rating: poor access and use capability	NA	NA	NA	NA	NA	Low rating: adjoining land use detracts	NA	NA
ZONE 6	High rating: >20 acres; 1-10% slope	High rating: >50% cover	High rating: <15% slope underwater; no water hazards	NA	High rating: minimal visual aesthetic impact	High rating: major area of need	High rating: road to the site	High rating: Use requested	NA	NA	NA
Public Parks (Local, state, or federal parks)	Med. rating: 10-20 acres; 10-15% slope	Med. rating: 25-50% cover	Med. rating: 15-20% slope underwater; correctable hazards	NA	Med. rating: moderate visual aesthetic impact	Med. rating: may be needed	Med. rating: road within½ mile	Med. rating: Potential exists	NA	NA	NA
	Low rating: <5 acres; >15% slope	Low rating: < 25% cover	Low rating: > 20% slope underwater; prohibitive hazards	NA	Low rating: major visual aesthetic impact	Low rating: duplicates or is questionable	Low rating: road > ½ mile away	Low rating: Unlikely	NA	NA	NA
	High rating: >10 acres; 1-5% slope	High rating: <25% cover	High rating: <15% slope underwater; no water hazards	High rating: >10 acres; wind-protected	High rating: minimal visual aesthetic impact	High rating: major area of need	High rating: road to the site	High rating: Use requested	NA	NA	NA
Commer-cial (Camp-grounds, marinas, and resorts)	Med. rating: 5-10 acres; 5-10% slope	Med. rating: 25-50% cover	Med. rating: 15-20% slope underwater; correctable hazards	Med. rating: 5-10 acres; partial protection	Med. rating: moderate visual aesthetic impact	Med. rating: may be needed	Med. rating: road within½ mile	Med. rating: Potential exists	NA	NA	NA
	Low rating: minimum 5	Low rating:	Low: > 20% slope under-	Low rating: < 5 acres;	Low rating: major visual	Low rating: duplicates	Low rating: road > ½	Low rating: Unlikely	NA	NA	NA

Zones	Land Base	Forest-ation	Shoreline	Harbor Area	Reservoir Drawdown	Location	Road Access	Outside Interest	Land Use	Aesthetics	Land Ownership
	acres; >10% slope	> 50% cover	water; pro-hibitive haz.	no natural protection	aesthetic impact	or is questionable	mile away				
Water Access (Lake or river access sites)	High rating: >3 acres	NA	High rating: <15% slope underwater; no water hazards	NA	NA	High rating: major area of need	High rating: road to the site	High rating: Use requested	NA	NA	NA
	Med. rating: 1-3 acres	NA	Med. rating: 15-20% slope underwater; correctable hazards	NA	NA	Med. rating: may be needed	Med. rating: road within½ mile	Med. rating: Potential exists	NA	NA	NA
	Low rating: <1 acre	NA	Low rating: > 20% slope underwater; prohibitive hazards	NA	NA	Low rating: duplicates or is questionable	Low rating: road > ½ mile away	Low rating: Unlikely	NA	NA	NA

Table E-2 Industrial Development Model

Capability	Land Base	Land Slope	Shape	Height Above Water	Flooding	Barge Accessibility	Miles to Major State or Federal Highway	Miles To Railroad	Availability of Utilities	Road Access
Industrial Site	High rating: over 100 acres; Medium rating: 25 to 100 acres; Low rating: less than 25 acres	High rating: 1 to 5%; Medium rating: 5 to 15%; Low rating: greater than 15%	High rating: fairly rectangular; Medium rating: square; Low rating: irregular	High rating: less than 20 feet; Medium rating: 20 to 40 feet; Low rating: greater than 40 feet	High rating: majority above structure profile; Medium rating: 50% above structure profile; Low rating: majority below structure profile	High rating: minor or no dredging required; Medium rating: some dredging required; Low rating: major dredging required or no barge available	High rating: less than 2; Medium rating: 2 to 5; Low rating: more than 5	High rating: less than 1; Medium rating: 1 to 2; Low rating: more than 2	High rating: all utilities available; Medium rating: some utilities available; Low rating: no utilities available	High rating: road to the site; Medium rating: road within ½ mi. of site; Low rating: road greater than ½ mi. of site
Industrial Access	High rating: more than 10 acres; Medium rating: 5 to 10 acres; Low rating: minimum of 5 acres	High rating: 1 to 5%; Medium rating: 5 to 15%; Low rating: greater than 15%	High rating: long, linear rectangle; Medium rating: short, linear rectangle; Low rating: short and irregular	High rating: less than 20 feet; Medium rating: 20 to 40 feet; Low rating: greater than 40 feet	High rating: majority above structure profile; Medium rating: 50% above structure profile; Low rating: majority below structure profile	High rating: minor or no dredging required; Medium rating: some dredging required; Low rating: major dredging required or no barge available	High rating: less than 2; Medium rating: 2 to 5; Low rating: more than 5	High rating: less than 1; Medium rating: 1 to 2; Low rating: more than 2	High rating: all utilities available; Medium rating: some utilities available; Low rating: no utilities available	High rating: road to the site Medium rating: road within ½ mi. of site; Low rating: road greater than ½ mi. of site

Visual Resources

The capability and suitability ratings used for the visual category were based on a visual management methodology and descriptions taken from *National Forest Landscape Management Volume 2*, Chapter 1, "The Visual Management System", Agricultural Handbook Number 462, prepared by the U.S. Forest Service, Department of Agriculture. In accordance with the methodology, each tract was assigned a rating based on two components, *variety classes* and *sensitivity levels*.

Capability Criteria

Variety classes are obtained by classifying the landscape into different degrees of variety. Variety classification is used to determine those landscapes which are most important and those which are of lesser value from the standpoint of scenic quality.

Variety classification is based on the premise that while all landscapes have some value, *those with the most variety or diversity have the greatest potential for high scenic value.*

There are three variety classes that identify the scenic quality of the natural landscape:

Class A — Distinctive. Those areas where features of landform, vegetative patterns, water forms, and rock formations are of unusual or outstanding visual quality and not common in the character type.

Class B — Common. Those areas where features contain variety in form, line, color, and texture or combinations thereof, but which tend to be common throughout the character type and are not outstanding in visual quality.

Class C — Minimal. Those area where features have little change in form, line, color, or texture. Includes all areas not classified as A and B.

The capability ratings of excellent, good, fair, and poor are based on these classifications and the perceived level of human disturbance to the site which interfered with the natural viewscape.

Excellent (1) — A tract rated excellent for visual quality would have exceptionally varied and or unique landscape that should be preserved in its current state. It would be

rated "Distinctive" for variety. Only ecological changes should be allowed on a tract rated excellent. Management activities, except for very low visual-impact recreation facilities should be prohibited.

Good (2) — A tract rated good for visual quality would contain a varied, high-quality visual aspect, but no unique or distinctive features. Only slight evidence of human influence on the viewscape should be apparent. It would be rated "Common" for variety. Some management activity would be appropriate on such a tract, but care should be given to maintain or improve the integrity of the existing viewscape.

Fair (3) — A tract rated fair for visual quality shows clear evidence of human activity and/or little variety or interesting features in the original viewscape. Sites may contain roads, signs, and buildings, or disturbed vegetation. It would be rated "Minimal" under variety. Such a tract could be enhanced or rehabilitated to improve visual harmony with the surrounding natural viewscape, but will continue to support some development and should be managed to minimize further visual degradation.

Poor (4) — A tract rated poor may be highly disturbed by human activity, such as a mining site or a clear cut, or may be visually undisturbed. It would be rated minimal or would be unrated on the variety scale. These tracts would require much enhancement or rehabilitation to restore visual quality.

Suitability Criteria Suitability is based on the site sensitivity. Sensitivity levels are a measure of concern for the scenic quality of the TVA land, viewed from the reservoir and from the land. Sensitivity levels are determined for land areas viewed 1) from the reservoir, 2) from primary travel routes, and 3) from secondary travel routes. In this way, some

degree of site sensitivity was established for the entire land base.

Three sensitivity levels are employed, each identifying a different level of user concern for the visual environment.

Level 1 — Includes all areas seen from the reservoir where there is major concern for the scenic qualities.

Level 2 — Includes all areas seen from primary travel routes and use areas where there is major concern for scenic qualities.

Level 3 — Includes all areas seen from secondary travel routes and use areas. Level 3 does not include any areas seen from the reservoir or primary routes.

Table E-3 Criteria for Natural Resource Stewardship

Overland Access	Ecological Diversity	Habitat Management	Cost Recovery	Compatibility of Adjacent Land Use	Multiple Use Potential	Intensity of Current Use	Natural Resources Partnerships
Existing Road Network	> 5 Ecological Communities or Successional Stages	Easily Managed	High	Adjacent Land Use Would Have No Effect on Management Decisions	3 To 5 Potential Uses	N/A	N/A
Overland Access Possible	3 To 5 Ecological Communities or Successional Stages	Could Be Managed	Medium	Adjacent Land Use Could Preclude Some Management Options	1 to 3 Potential Uses	N/A	N/A
Overland Access Unavailable	1 To 3 Ecological Communities or Successional Stages	Difficult to Manage	Low	Adjacent Land Use Could Prevent Resource Management/Utilization	Single Use Potential	N/A	N/A
Existing Road Network	N/A	N/A	High	Adjacent Land Use Would Have No Effect on Management Decisions	3 To 5 Potential Uses	Year Round Use	N/A
Overland Access Possible	N/A	N/A	Medium	Adjacent Land Use Could Preclude Some Management Options	1 To 3 Potential Uses	2 Or 3 Season Use	N/A
Overland Access Unavailable	N/A	N/A	Low	Adjacent Land Use Could Prevent Resource Management/Utilization	Single Use Potential	< 2 Season Use	N/A
Existing Road Network	N/A	Easily Managed	High	Adjacent Land Use Would Have No Effect on Management Decisions	3 To 5 Potential Uses	N/A	2 or More Potential Partners or 2 or More Partnerships In Place
Overland Access Possible	N/A	Could Be Managed	Medium	Adjacent Land Use Could Preclude Some Management Options Adjacent Land Use	1 To 3 Potential Uses	N/A	1 or 2 Potential Partners or 1 or 2 Partnerships In Place
Overland Access Unavailable	N/A	Difficult To Manage	Low	Could Prevent Resource Management/Utilization	Single Use Potential	N/A	No Potential for Partnerships and No Partnerships in Place
> $5000	N/A	> 2 Prior Investors	High	N/A	N/A	N/A	2 or More Partners Have Invested
$0 to $5000	N/A	1 To 2 Prior Investors	Medium	N/A	N/A	N/A	1 To 2 Partners Have Invested
No Prior Investment	N/A	No Prior Investors	Low	N/A	N/A	N/A	No Prior Investments

APPENDIX F

MELTON HILL RESERVOIR LAND MANAGEMENT PLAN

Refer to the Final TVA Board-Approved Land Management Plan, Volume II (formerly Appendix F)

APPENDIX G

COMMON TERRESTRIAL/WETLAND WILDLIFE SPECIES BY COMMUNITY TYPE AND OCCURRENCE

Table G-1 - Common Terrestrial/Wetland Wildlife Species by Community Types and Occurrence in the Vicinity of Melton Hill Reservoir

Species By Common Name	Scientific Name	Forest Lands	Managed Open Lands(Old fields & Ag. fields)	Wetland & Riparian Habitats
Amphibians				
Bullfrog	*Rana catesbeiana*			X
Eastern Narrowmouth Toad	*Gastrophryne carolinensis*			X
Green Frog	*Rana clamitans mclanota*			X
Spring Peeper	*Pseudacris crucifer*			X
Woodhouse's Toad	*Bufo woodhousei*	X		
Western chorous frog	*Pseudacris triseriata*			X
American Toad	*Bufo americanus*			X
Cope's Gray Treefrog	*Hyla chrysoscelis*			X
Spotted Salamander	*Ambystoma maculatum*	X	X	
Dusky Salamander	*Desmognathus fuscus*	X		X
Northern Slimy Salamander	*Plethodon glutinosus*	X		
Reptiles				
Black Rat Snake	*Elaphe obsoleta obsoleta*	X		
Eastern Garter Snake	*Thamnophis sirtalis sirtalis*	X	X	X
Northern Ringneck Snake	*Diadophis punctatus edwardsii*	X		
Northern Water Snake	*Nerodia sipedon sipedon*			X
Northern Fence Lizard	*Sceloporus undulatus hyacinthinus*	X		
Five-lined Skink	*Eumeces fasciatus*	X	X	
Broadhead Skink	*Eumeces laticeps*	X		
Common Snapping Turtle	*Chelydra serpentina serpentina*			X
Eastern Painted Turtle	*Chrysemys picta.*			X
Red-eared Slider	*Trachemys scripta elegans*			X
Eastern Box Turtle	*Terrapene carolina carolina*	X	X	
Birds				
Red-shouldered Hawk	*Buteo lineatus*	X		X
Red-tailed Hawk	*Buteo jamaicensis*	X	X	
American Kestrel	*Falco sparverius*		X	
Great Horned Owl	*Bubo virginianus*	X	X	X
Barred Owl	*Strix varia*	X		X
Common Screech Owl	*Otus asio*	X	X	
Turkey Vulture	*Cathartes aura*	X		
Black Vulture	*Coragyps atratus*	X		
American Crow	*Corvus brachyrhynchos*	X	X	
Hairy Woodpecker	*Picoides villosus*	X		X
Pileated Woodpecker	*Dryocopus pileatus*	X		X
Northern Flicker	*Colaptes auratus*	X	X	
Downy Woodpecker	*Picoides pubescens*	X		X
Red-bellied Woodpecker	*Melanerpes carolinus*	X	X	
Belted Kingfisher	*Megaceryle alcyon*			X
Great Blue Heron	*Ardea herodias*			X

Species By Common Name	Scientific Name	Forest Lands	Managed Open Lands(Old fields & Ag. fields)	Wetland & Riparian Habitats
Black-crowned Night-Heron	*Nycticorax nycticorax*			X
Green-backed Heron	*Butorides striatus*			X
Spotted Sandpiper	*Actitis macularia*			X
Killdeer	*Charadrius vociferus*		X	X
Wild Turkey	*Meleagris gallopavo*	X	X	
Northern Bobwhite	*Colinus virginianus*		X	
Mourning Dove	*Zenaida macroura*		X	
Canada Goose	*Branta canadensis*		X	X
Wood Duck	*Aix sponsa*			X
Mallard	*Anas platyrhynchos*			X
Blue-winged Teal	*Anas discers*			X
American Black Duck	*Anas rubripas*			X
Pied-bill Grebe	*Podilymbus podiceps*			X
Northern Cardinal	*Cardinalis cardinalis*	X	X	
Eastern Bluebird	*Sialia sialis*		X	
American Goldfinch	*Carduelis tristis*	X	X	
Blue Jay	*Cyanocitta cristata*	X		
Carolina Chickadee	*Parus carolinensis*	X	X	
Red-winged Blackbird	*Agelaius phoeniceus*		X	X
Rufous-sided Towhee	*Pipilo erythrophthalmus*	X	X	
American Robin	*Turdus migratorius*	X	X	
Northern Mockingbird	*Mimus polyglottos*		X	
Carolina Wren	*Thryothorus ludovicianus*	X	X	
Indigo Bunting	*Passerina cyanea*		X	
Tufted Titmouse	*Parus bicolor*	X		
White-breasted Nuthatch	*Sitta carolinensis*	X		X
Yellow-billed Cuckoo	*Coccyzus americanus*	X	X	
Black-and-white Warbler	*Mniotilta varia*	X		
Wood Thrush	*Hylocichla mustelina*	X		
Eastern Wood Pewee	*Contopus virens*	X		
Red-eyed Vireo	*Vireo olivaceus*	X		
Pine Warbler	*Dendroica pinus*	X		
Great Crested Flycatcher	*Myiarchus crinitus*	X		
Mammals				
White-tailed Deer	*Odocoileus virginianus*	X	X	X
Gray Squirrel	*Sciurus carolinensis*	X		
Southern Flying Squirrel	*Glaucomys volans*	X		
Eastern Chipmunk	*Tamias striatus*	X	X	
Raccoon	*Procyon lotor*	X		X
Eastern Cottontail Rabbit	*Sylvilagus floridanus*		X	
Bobcat	*Lynx rufus*	X		X
Red Fox	*Vulpes vulpes*		X	
Gray Fox	*Urocyon cinereoargenteus*	X	X	
Coyote	*Canis latrans*		X	

Species By Common Name	Scientific Name	Forest Lands	Managed Open Lands(Old fields & Ag. fields)	Wetland & Riparian Habitats
Mink	*Mustela vison*			X
Muskrat	*Ondatra zibethicus*			X
Opossum	*Didelphis virginiana*	X	X	
Striped Skunk	*Mephitis mephitis*	X	X	
Groundhog	*Marmota monax*	X	X	
White-footed Mouse	*Peromyscus leucopus*	X	X	
Deer Mouse	*Peromyscus maniculatus*	X	X	
Eastern Mole	*Scalopus aquaticus*	X	X	
Least Shrew	*Cryptotis parva*		X	X
Short-tailed Shrew	*Blarina brevicauda*	X		X
Pine vole	*Pitymys plnctorum*	S	X	

APPENDIX H

STATE-LISTED PLANTS REPORTED FROM MELTON HILL PLANNING PARCELS

Table H-1 - State-Listed Plants Reported From Melton Hill Land Planning Parcels

Habitat	Scientific Name (Protected Status)	Common Name	Comments	Number of Occurrences
Forested rocky bluff	*Aureolaria patula* (State-listed as Threatened, SMC*)	Spreading false-foxglove	This fall-blooming herb usually is found in rocky areas at the edge of the reservoir with fewer plants farther up the slope.	9
	Cimicifuga rubifolia (State-listed as Threatened, SMC)	Appalachian bugbane	This herb is found in rocky, deeply shaded areas.	9
	Diervilla lonicera (State-listed as Threatened)	Northern bush-honeysuckle	This shrub is found at cliff bases in semi-shaded to shaded areas.	2
	Draba ramosissima (State Special concern)	Branching whitlow-grass	This spring-blooming herb grows on rock at the top of cliffs at semi-shaded sites.	1
	Lonicera dioica (State Special concern)	Mountain honeysuckle	This sprawling shrub or vine grows on steep, shaded slopes.	1
	Saxifraga careyana (State Special concern, SMC)	Carey's saxifrage	This spring-blooming herb grows on cliff faces in shade.	10
Pine forest	*Cypripedium acaule* (State Endangered due to commercial exploitation)	Pink lady's-slipper	This spring-blooming orchid is found in pine or mixed pine-hardwood forests.	1
Cedar barren or open woods with limestone outcrops	*Delphium exaltatum* (State Endangered)	Tall larkspur	This summer-blooming herb is found in rocky woods at the TVA site, but other occurrences on the Oak Ridge Reservation are in power line ROW.	1
Hardwood forest	*Panax quinquefolius* (State Special concern due to commercial exploitation)	Ginseng	This herb is found in small populations in moist forests.	8
	Juglans cinerea (State-listed as Threatened, SMC)	Butternut	This tree species, growing in forest or forest edge, is threatened due to disease. Protecting nearly dead individual trees may not be useful. One occurrence of healthy trees is known on the reservoir.	3
	Lilium canadense (State-listed as Threatened)	Canada lily	This lily grows in moist forest, forested wetland, and occasionally at forest edges.	4
Wetlands	*Elodea nuttalii* (State Special concern)	Nuttall's waterweed	This aquatic species grows submerged in ponds.	1
	Epilobium ciliatum (State Special concern)	Hairy willow-herb	This herb grows on pond edges or in wet meadows. There are no recent observations on the reservoir.	1 reported

Habitat	Scientific Name (Protected Status)	Common Name	Comments	Number of Occurrences
	Iris fulva (State-listed as Threatened)	Copper iris	This iris is found on the edge of a forested wetland. East Tennessee is out of the previously known range of this species. It may have been planted or recently introduced by migrating water birds on Melton Hill Reservoir.	1
	Platanthera flava var. *flava* (State-listed as Special concern)	Southern rein-orchid	This orchid is usually found in forested wetlands and occasionally in open wetlands.	1

*SMC indicates the unofficial status of species of management concern following a suggestion from the USFWS (Debby Mignogno, USFWS, personal communication) on how to indicate species that had the C2 status before it was eliminated.

APPENDIX I

DEFINITIONS OF STATE STATUS FOR PLANT SPECIES

Definitions of State Status for Plant Species*

State Status indicates which plants are formally listed as Endangered, Threatened, or Special Concern under authority of the Tennessee Department of Environment and Conservation. The Department has the valuable assistance of the state's best field botanists, 12 of whom serve on the Scientific Advisory Committee which periodically reviews the list.

E ***Endangered Species*** means any species or subspecies of plant whose continued existence as a viable component of the state's flora is determined by the Commissioner to be in jeopardy; including, but not limited to, all species of plants determined to be "endangered species" pursuant to the Endangered Species Act.

T ***Threatened Species*** means any species or subspecies of plant which appears likely, within the foreseeable future, to become endangered throughout all or significant portions of its range in Tennessee; including, but not limited to, all species of plants determined to be a "threatened species" pursuant to the Endangered Species Act.

S ***Special Concern Species*** means any species or subspecies of plant which is uncommon in Tennessee or has unique or highly specific habitat requirements or scientific value and therefore requires careful monitoring of its status.

*Nordman,1997

APPENDIX J

STATE-LISTED PLANT SPECIES OCCURRING WITHIN A 10-MILE RADIUS OF MELTON HILL PLANNING AREA (NON-TVA LAND)

The species in the following table are grouped by habitat. The scientific name and Tennessee status are given in parentheses. All of these species were sought but not encountered during the field survey.

Table J-1 - State-Listed Plants Reported Within 10 Miles of the Melton Hill Land Planning Area, but Not Known From TVA Melton Hill Lands

Species	Status	Habitat
Forested rocky bluffs		
Pursh's wild-petunia (*Ruellia purshiana)*	Special Concern	This herb grows in drier more open areas of the forested bluffs and is found on the Oak Ridge Reservation on slopes above the Clinch River.
American barberry (*Berberis canadensis)*	Special Concern	This shrub grows on rocky bluff tops or possibly in cedar barrens.
Heartleaf meehania (*Meehania cordata*	Threatened	This herb is found in moist shady forests.
Forest:		
Heavy sedge (*Carex gravida)*	Special Concern	This sedge is found on the Oak Ridge Reservation, on slopes above the Clinch River.
Mountain witch-alder (*Fothergilla major*	Threatened	This shrub is found in a nonlimestone woods on the Oak Ridge Reservation.
Three-parted violet (*Viola tripartita* var. *tripartita)*	Special Concern	This violet is found on the Oak Ridge Reservation in a rocky sink hole.
Heller's catfoot (*Gnaphalium helleri)*	Special Concern	This forest herb has not been seen recently at its site near Melton Hill Reservoir.
Goldenseal (*Hydratis canadensis)*	Special Concern due to commercial exploitation	This herb is found on the Oak Ridge Reservation in moist forests.
Wetland:		
Hairy sharp-scaled sedge (*Carex oxylepis* var. *pubescens)*	Special Concern	This sedge was collected on the Oak Ridge Reservation, but it has not been seen there in the last 25 years.
Small-head rush (*Juncus brachycephalus)*	Special Concern	This sedge is known from two wetlands on the Oak Ridge Reservation.
Fen orchid (*Liparis loselii)*	Endangered	This orchid is found on the Oak Ridge Reservation in woods on the edge of a marsh.
Tubercled rein-orchid (*Platanthera flava* var. *herbiola)*	Threatened	This orchid grows in several wetlands on the Oak Ridge Reservation.
Purple fringeless orchid (*Platanthera peramoena)*	Threatened	This orchid is found on the Oak Ridge Reservation in both open and forested wetlands.
River bulrush (*Scirpus fluviatilis)*	Special Concern	This bulrush grows on the Oak Ridge Reservation on the edge of a small lake.
Shining ladies'-tresses (*Spiranthes lucida)*	Threatened	This orchid is known from the edge of a pond on the Oak Ridge Reservation but could also be found in limestone seeps.

Species	Status	Habitat
Cedar barrens:		
Slender blazing-star (*Liatris cylindracea)*	Endangered	This composite grows in rocky open sites.
Prairie goldenrod (*Solidago ptarmicoides)*	Endangered	This is another composite that grows in rocky open sites.
Earleaved false-foxglove (*Agalinis auriculata)*	Endangered	This herb of rocky open sites is parasitic on the roots of other herbs.

APPENDIX K

PARCELS ALLOCATED FOR ZONE 3

The following is a list of 27 parcels from the Land Planning Allocation Map that are indicated for protection (Zone 3) based on occurrences of rare plants. The letter and number codes correspond to those on the map. The names for the parcels are taken from the site names used in the TVA Regional Heritage Project database. Species found on each parcel are not named, in order to protect these sensitive resources from disturbance.

Table K-1 - Parcels Allocated for Zone 3

Parcel No.	Area Name	Description
3	Hope Creek Colony Bluffs	Narrow, forested bluff with limestone outcrops
11	Pine Top	Young white pine plantation on ridge top
12	Hickory Creek Bluffs	Deciduous forest on steep, rocky river bluff
24	Stubbs Bluff	Forested bluff with limestone outcrops and cliffs
31, 33	Gallaher Bend Bluffs	Limestone river bluffs
35	Pumping Station Outcrops	Narrow strip of shoreline with low, wooded outcrops of limestone
38	Hewitt Bluff	Deciduous forest on rocky and, in places, cliffy bluff; there are some disturbed areas with exotic plants.
40	Lower Beaver Creek	A wooded slope on Beaver Creek with limestone outcrops
40	Mid Beaver Creek Slopes	Deciduous forest on a steep slope with limestone outcrops
40	Upper Beaver Creek	Narrow streamside area; deciduous forest
62	Bethel Valley Embayment	Slope rising only about 15 feet to a relatively flat upland; some limestone outcrops; forested wetland in the south end where a small stream enters the embayment
68	Railroad Slope	Steep slope with deciduous forest; slope apparently covered by rocks from the construction of the railroad up slope
69	Pumping Station Embayment Slope	Slope with deciduous forest and limestone outcrops; kudzu is invading from the west
83	Lower Bull Run Bluffs	Bluffs with deciduous forest; some rock outcrops
87	Upper Bull Run Bluffs	A series of wooded bluffs with rock outcrops and some bottom areas
89	Bull Run Wetland	A small forested wetland with hay fields on two sides
91	Chestnut Ridge Bluff	Steep (in places cliffy), north-facing bluff with deciduous forest
93	Wolf Creek Embayment	A small area of deciduous forest with limestone outcrops along an embayment
97	Pine Ridge Bluff	Steep rocky slopes and cliff covered with deciduous forest
104	Pilot Knob Bluff	Deciduous woods from the road up to or near the cliff line
106	Palisades Subdivision Embayment	Wetlands around an embayment
109	Railroad Bridge Bluffs	Deciduous forest over limestone cliffs and outcrops
111	Lost Bottoms	Mowed area and wooded limestone outcrop
146	Lost Ridge	A steep forested slope going all the way to the ridge line with some cliff areas and a cave
151	Aulton Island	A low island mostly covered with young deciduous trees and some wetland areas, including a beaver pond

Parcel No.	Area Name	Description
152	Little Dismal Slopes	Steep slope with deciduous forest and some stream bottom with spice bush dominant
154	Big Dismal Bluff	River bluff with cliffs and deciduous forest; this area is unusual for having nonlimestone outcrops
158	North Eagle Bend	A small sink hole in an area of disturbed woods

APPENDIX L

RARE TERRESTRIAL ANIMALS AND SENSITIVE ECOLOGICAL AREAS

Table L-1 - Rare Terrestrial Animals and Sensitive Ecological Areas Known From Melton Hill Reservoir Land Planning Parcels.

Scientific Name	Common Name	Comments
Myotis grisescens	Gray bat	Listed as federally threatened. Likely to forage on Melton Hill Reservoir. A small bachelor colony of gray bats is located at Norris Dam Cave. This colony of gray bats is protected and monitored annually by TVA biologists. Gray bats roost primarily in caves and forage mostly over aquatic habitats. Several small caves are located along Melton Hill Reservoir. These caves may be used as transitional roosting sites by gray bats.
Haliaeetus leucocephalus	Bald eagle	Utilize Melton Hill Reservoir on a limited basis. Listed as federally threatened, bald eagles typically forage and nest along large rivers, lakes, and reservoirs. Buehler (1993) reported that sufficient habitat exists along Melton Hill Reservoir to support breeding bald eagles. Although numbers of nesting pairs are increasing in East Tennessee, no nesting records of bald eagles are known from Melton Hill Reservoir. Midwinter surveys conducted during 1979-98 indicate that bald eagles use Melton Hill Reservoir during winter months (Hatcher, 1998). In 1996, a total of five bald eagles—three adults and two immature eagles—were recorded. Regional Natural Heritage database indicates a nearby bald eagle nesting record for Watts Bar Reservoir just downstream of Melton Hill Reservoir.
Pandion haliaetus	Osprey	Known to nest on Melton Hill Reservoir. Listed as threatened by the state of Tennessee, osprey are associated with large lakes, rivers, and reservoirs which are utilized as foraging habitat. Nesting osprey are increasing in numbers throughout eastern Tennessee. With nesting sites apparently limited in these habitats, osprey readily utilize manmade structures (navigation lights, power poles, etc.) and artificial nesting structures. One nesting record is reported near Freels Bend (CRM 41.6) and a second nest is located near Gallaher Bend (CRM 32).
Cryptobranchus a. alleganiensis	Eastern hellbender	Listed as In Need Of Management in Tennessee, the eastern hellbender is a large, exclusively aquatic salamander that inhabits medium-to-large creeks and rivers with good water quality and large rocks, logs, and bank overhangs used for shelter. Records indicate this species only occurs in the tailwaters of Norris Dam.

Sensitive Ecological Area	Location of Land Planning Parcel
Cave	Eastern shoreline of Melton Hill Reservoir (MHR), CRM 39.9
Cave	Lost Ridge, east of MHR, CRM 60.5
Heronry	Island in MHR, CRM 49.2
Heronry	MHR shoreline, Eagle Bend Hatchery, CRM 66
Bat colony	Henderson Rd. bridge, Bull Run Creek, 1.9 miles from MHR

APPENDIX M

TERRESTRIAL ANIMAL SPECIES LOCATED WITHIN A 10-MILE RADIUS OF MELTON HILL PLANNING AREA

Table M-1 - Terrestrial Animal Species Located Within a 10-Mile Radius of Melton Hill Planning Area (Non-TVA Lands) and Present on Land Planning Parcels.

Scientific Name	Common Name	Federal Status	State Status
Corynorhinus rafinesquii	Eastern big-eared bat		NMGT
Myotis leibii	Eastern small-footed bat		NMGT
Myotis sodalis	Indiana bat	FE	SE
Neotoma magister	Alleghany woodrat		NMGT
Sorex longirostris	Southeastern shrew		NMGT
Zapus hudsonius	Meadow jumping mouse		NMGT
Accipiter cooperii	Cooper's hawk		NMGT
Accipiter striatus	Sharp-shinned hawk		NMGT
Ammodramus savannarum	Grasshopper sparrow		NMGT
Casmerodius albus	Great egret		NMGT
Phalacrocorax auritus	Double-crested cormorant		NMGT
Thryomanes bewicki altus	Appalachian Bewick's wren		ST
Tyto alba	Common Barn-owl		NMGT
Ambystoma talpoideum	Mole salamander		NMGT
Hemidactylium scutatum	Four-toed salamander		NMGT
Ophiosaurus attenuatus longicaudus	Eastern slender glass lizard		NMGT
Pituophis m. melanoleucus	Northern pine snake		NMGT

FE = federally listed as Endangered, SE = state-listed as Endangered, ST = state-listed as Threatened, NMGT = state-listed as In Need of Management.

Table M-2 - Species That Potentially Could be Found on Melton Hill Reservoir Lands, Based Upon Known Occurrences From Nearby Non-TVA Lands, the Species' Zoogeography, and the Availability of Suitable Habitats

Eastern big-eared bat (*Corynorhinus rafinesquii*) - Listed as In Need Of Management in the state of Tennessee. This colonial species inhabits unoccupied buildings, wells, hollow trees, caves, and crevices. It forages along wooded streams and wooded hillsides adjacent to streams.

Eastern small-footed bat (*Myotis leibii*) - Listed as In Need Of Management by the state of Tennessee. This species roosts singly or in groups in natural or manmade, dry, rock habitats (rock fissures, rock slabs, caves, abandoned mines, quarries), or abandoned buildings. This species forages slowly over streams and ponds, and along cliffs, ledges, and wooded areas, generally within 20 feet of the ground.

Indiana bat (*Myotis sodalis*) - Listed as state and federally endangered. This species roosts in natural caves, mine shafts, hollow trees, and behind loose bark of dead or living trees, such as ash, shag-bark hickory, and white oak. Primary foraging areas include wooded areas over or near water, forested ridges, and floodplain trees. Surveys for Indiana bats at Oak Ridge Reservation revealed no individuals. However, suitable habitat for this species does occur on Melton Hill Reservation lands.

Alleghany woodrat (*Neotoma magister*) - This species is listed as In Need Of Management by the state of Tennessee. Habitat for this species includes higher elevations in association with rock outcrops, caves, boulder piles, and along rock bluffs. Nests are placed in crevices, caves, hollow logs, trees, or stumps.

Southeastern shrew (*Sorex longirostris*) - Listed as In Need Of Management by the state of Tennessee. This species utilizes a diverse variety of habitats. Bogs, marshes, grassy or forested uplands, dry upland hardwoods, and moist areas with heavy ground cover (fallen logs, leaf litter, dense vegetative ground cover) near lakes, streams, or marshes are all suitable habitats.

Meadow jumping mouse (*Zapus hudsonius*) - Listed as In Need Of Management in the state of Tennessee. This species inhabits thick herbaceous cover near streams and ponds, open grassy fields and meadows, forest clearings and edges, and marshes in woodlands.

Cooper's hawk (*Accipiter cooperii*) - Listed as In Need Of Management in the state of Tennessee. This species prefers deciduous forested habitats and woodland edges, but also uses coniferous forests interrupted by clearings, fields and openings, and suburban and riparian wooded habitats. This species nests primarily in deciduous trees.

Sharp-shinned hawk (*Accipiter striatus*) - This species is listed as In Need Of Management in the state of Tennessee. This species prefers dense coniferous forests, but occasionally utilizes mixed or deciduous (upland oak/hickory) forest. This species nests almost exclusively in conifers.

Grasshopper sparrow (*Ammodramus savannarum*) - This species is listed as In Need Of Management by the state of Tennessee. Preferred habitat for this species includes early

succession, grassy fields and weedy meadows, hayfields, and grassy strips adjacent to airport runways.

Great egret (*Casmerodius albus)* - Listed as In Need Of Management in the state of Tennessee. This species utilizes freshwater marshes, marshy ponds, brushy lake borders, or willow swamps as nesting and foraging habitats.

Double-crested cormorant (*Phalacrocorax auritus)* - This species is listed as In Need Of Management in the state of Tennessee. Preferred habitat for this species is associated with lakes, rivers, and reservoirs which are used as foraging areas. Dead riparian snags are used as perches.

Appalachian Bewick's wren (*Thryomanes bewickii altus*) - This species is listed as Threatened by the state of Tennessee. Preferred habitats include thickets and brushpiles, and fence rows and hedgerows in farming country. Also utilized are second growth shrub habitats and old homesites.

Common barn-owl (*Tyto alba*) - Listed as In Need Of Management by the state of Tennessee. This species typically nests in caves, on rock ledges along bluffs, or in manmade structures situated near open, rural or urban habitats, agricultural areas or woodland edges, which are utilized as foraging areas.

Mole salamander (*Ambystoma talpoideum*) - Listed as In Need Of Management in the state of Tennessee. This species lives in burrows in damp, low-lying woodlands, or under logs, debris or leaf litter. Breeding sites are semi-permanent ponds with aquatic vegetation, or flooded ditches, depressions, or ponds in woodlands.

Four-toed salamander (*Hemidactylium scutatum)* - This species is listed as In Need Of Management in the state of Tennessee. Preferred habitats for this species include sphagnum bogs, woodland swamps, shallow ponds, or slow-moving streams with abundant moss and sedges, adjacent to forested woodlands with rocks, logs, or abundant leaf litter.

Eastern slender glass lizard (*Ophiosaurus attenuatus longicaudus*) - Listed as In Need Of Management in Tennessee. This burrowing species inhabits brushy, cut-over woodlands; abandoned farms; grassy fields; dry, upland pine/oak woods; and woodland edges. This species has been recorded from locations in Knox and Roane Counties, TN.

Northern pine snake (*Pituophis m. melanoleucus*) - Listed as State Threatened in Tennessee. This burrowing species inhabits dry, sandy, pine-scrub/oak woods or dry mountain ridges. This species has been recorded from Knox County, TN.

APPENDIX N

SIGNIFICANT NATURAL FEATURES AND SPECIALIZED HABITAT

Table N-1 - Significant Natural Features and Specialized Habitats for Melton Hill Reservoir (TVA, 1996b)

SMI Parcel Number	Land Plan Parcel No.	Habitat Description and Potential Sensitive T&E Species Use
Powell, TN quadrangle map:		
MH029A.1	155-158	- large hardwoods; rock outcrops; steep, rocky slopes; - eastern hellbender, river otter, eastern woodrat, osprey, great egret, green anole
MH029A.3	156	- emergent wetland, shallow water; - southeastern shrew, four-toed salamander, king rail, least bittern
MH029A.5	152	- vertical cliffs; mature, hardwood forest; - bald eagle, osprey, eastern woodrat
MH027A	151	- island, mature trees; - little blue heron, great egret, snowy egret
MH025A.9	143	- large, emergent wetland; shallow water; - southeastern shrew, least bittern, king rail, four-toed salamander
MH025A.10	143	- island, mature trees; - great egret, snowy egret, little blue heron
Clinton, TN quadrangle map:		
MH020A.13	51, 98, 109, 110	- low, herbaceous grassland; wetland; hardwoods; limestone outcrops to water; - southeastern shrew, eastern woodrat, four-toed salamander, eastern slender glass lizard, grasshopper sparrow, meadow jumping mouse
MH019A	102	- emergent wetland; low, herbaceous grassland; - southeastern shrew, eastern slender glass lizard, meadow jumping mouse, four-toed salamander
MH018A	93	- wetland [heronry due west on Melton Hill Reservoir]; - southeastern shrew, eastern slender glass lizard
MH017A	83, 86, 89	- emergent wetland; flooded lowlands; hardwood forest on steep slopes; low, herbaceous grassland; rock outcrops; - little blue heron, great egret, snowy egret, grasshopper sparrow, barn owl, eastern slender glass lizard, eastern woodrat, southeastern shrew, northern harrier, vesper sparrow, least bittern, king rail
MH013A	82	- hardwoods; rocky shoreline; emergent wetlands [unidentified bat colony in bridge expansion joints]; - least bittern, king rail, southeastern shrew

Lovell, TN quadrangle map:		
MH011A	48	- island; wetland; low, flooded areas; - least bittern, king rail, little blue heron, snowy egret, great egret
MH009AP	38	- tall hardwoods; rocky [small cave northeast of Hewitt Bluff]; - osprey
MH010AP	40, 41	- [cave nearby, north of mouth of Beaver Creek]
MH007AP.15	30, 31,33	- large hardwoods; - bald eagle, osprey
Bethel Valley, TN quadrangle map:		
MH007AP.17	28	- island; tall trees; developed vegetation; - little blue heron, great egret, snowy egret; [heronry - great blue herons]
MH005A.19	23	- old field; pines; - grasshopper sparrow, eastern slender glass lizard, meadow jumping mouse, sharp-shinned hawk, cooper's hawk
MH004A	13	- mid-age hardwoods; old field; - grasshopper sparrow, eastern slender glass lizard, meadow jumping mouse
MH 003A	10	- large hardwoods; - osprey, bald eagle
MH002AP.20	4, 5, 6	- large, mature hardwoods; - osprey, bald eagle
MH001A.22	2, 3	- mature hardwoods; - osprey, bald eagle

APPENDIX O

RECREATION FACILITIES ON MELTON HILL RESERVOIR

Table O-1 - Recreation Areas on Melton Hill Reservoir

IDENTIFICATION	River Mile	BANK	Parking Spaces (Car,Trailer)	Paved Boat Ramps	Courtesy Dock	FUEL	Picnic Tables	Trail (Miles)	Covered Pavilions	Camp Sites	Toilette Buildings	Swimming Areas	Courts (Tennis, Volleyball, Basketball, Exercise)	PLAYGROUND	FIELDS (Baseball/Softball, Soccer)	FOOD (Restaurant, Snacks)	BOAT SLIPS (Covered, Uncovered)
CITY PARKS (A)																	
Haw Ridge Park	46.0	R	6C	0	0	N	0	1.2	0	0	N	N	0	N	0	0	0
Melton Lake Park	50.2	R	200C	2	1	N	8	1.2	0	0	N	N	1V	Y	0	R	0
Clinton City Park	58.7	R	135C; 6T	1	1	N	10	0	0	0	Y	N	3T; 1B; 1E	Y	2B	0	0
Solway Park	44.0	R	60C; 40T	1	1	N	7	0	0	0	N	N	0	N	0	0	0
COUNTY PARKS (B)																	
Brushy Valley Park	46.4	L	NO DEVELOPMENT; PARK ACCESS CLOSED														
Bull Run Park	46.4	L	12T	1	0	N	0	0	0	0	N	N	0	N	0	0	0
Gibbs Ferry Roadside Park	53.3	R	12C; 4T	2	0	N	13	0	1	0	N	N	0	Y	0	0	0
Lost Bottom Park	53.9	L	10T	1	0	N	0	0	0	0	N	N	0	N	0	0	0
Melton Hill Park	37.0	L	20C; 20T	2	1	N	12	0	1	0	N	N	0	N	0	0	0
Guinn Road Park	41.0	L	7T	0	1	N	2	0	1	0	N	N	0	N	0	0	0
Hickory Creek Park	28.1	L	32C; 4T	1	0	N	2	0	1	0	N	N	0	N	1S	0	0
TVA RECREATION AREAS (C)																	
Melton Hill Dam Reservation (LBAD)	23.4	L	218C; 34T	1	1	N	46	0	3	56	Y	Y	1B	N	0	0	0
Melton Hill Dam Reservation (LBBD)	23.0	L	106C	0	0	N	0	0	0	0	N	N	0	N	0	0	0
Melton Hill Dam Reservation (RBBD)	21.9	R	22C; 15T	1	0	N	0	0	0	0	N	N	0	N	0	0	0
STATE ACCESS AREAS (D)																	
Eagle Bend Access Area (TWRA)	63.8	L	12T	1	0	N	0	0	0	0	N	N	0	N	0	0	0
Highway 61 Access Area (TWRA)	66.3	L	3C; 11T	1	0	N	0	0	0	0	N	N	0	N	0	0	0
MARINAS (E)																	
Melton Hill Marina	43.2	L	6C; 8T	0	1	Y	0	0	0	0	Y	N	0	N	0	S	32C; 2U
Oak Ridge Marina	50.2	R	100C	0	0	N	0	0	0	0	N	N	0	N	0	0	30U (+/-)
OTHER RECREATION AREAS (F)																	
Clark Center Park (DOE)	37.4	R	120C; 33T	1	2	N	55	0	3	0	Y	Y	1B	Y	2B	0	0

APPENDIX P

MODIFIED SHORELINE AQUATIC HABITAT INDEX METRICS AND SCORING CRITERIA

Table P-1 - Modified Shoreline Aquatic Habitat Index Metrics and Scoring Criteria

Metrics	Criteria	Score
Cover/Habitat	Percent of drawdown zone with stable, diverse cover (boulders, brush, artificial structure, etc.) > 25 percent.	5
	Percent of drawdown zone with stable, diverse cover (boulders, brush, artificial structure, etc.) 10 - 25 percent.	3
	Percent of drawdown zone with stable, diverse cover (boulders, brush, artificial structure, etc.) < 10 percent.	1
Substrate/Gradient	Percent of substrate gravel > 50 percent with gradual gradient (< 1 meter rise per 10 meter distance).	5
	Percent of substrate gravel between 10 and 40 percent with abrupt gradient (> 1 meter rise per 10 meter distance).	3
	Percent of substrate gravel < 10 percent with abrupt gradient (> 1 meter rise per 10 meter distance).	1
Riparian Zone/ Canopy	Width buffered > 18 meters and/or canopy > 60 percent along adjacent shoreline.	5
	Width buffered between 6 and 18 meters and/or canopy 30 to 60 percent along adjacent shoreline.	3
	Width buffered < 6 meters and/or canopy < 30 percent.	1
Bank Stability	Little or no evidence of erosion or bank failure.	5
	Areas of erosion small and infrequent.	3
	Areas of erosion extensive.	1
	Modified Shoreline Aquatic Habitat Assessment Index Poor 4 - 9 Fair 10 - 15 Good 16 - 20	

APPENDIX Q

FISH SPECIES COLLECTED IN 1996 (FALL ELECTROFISHING AND GILL NETTING SAMPLES)

Table Q-1 - Fish Species Collected in 1996 (Fall Electrofishing and Gill Netting Samples) on Melton Hill Reservoir at the Forebay, Mid-Reservoir, and Upper-Reservoir Stations.*

Species	Forebay	Mid-reservoir	Upper-reservoir
Longnose gar	-	X	-
Skipjack herring	X	-	-
Alewife	-	-	X
Gizzard shad	X	X	X
Threadfin shad	X	X	-
Rainbow trout	-	-	X
Common carp	X	X	X
Spotfin shiner	X	X	X
Bluntnose minnow	X	-	X
River carpsucker	-	X	-
Quillback carpsucker	X	X	X
White sucker	-	-	X
Northern hogsucker	X	X	X
Smallmouth buffalo	X	X	X
Black buffalo	X	-	X
Spotted sucker	X	X	X
Silver redhorse	-	X	-
Black redhorse	X	X	X
Golden redhorse	X	X	-
Blue catfish	X	-	-
Channel catfish	X	X	-
Flathead catfish	-	X	-
White bass	X	X	-
Yellow bass	X	X	-
Striped bass	X	-	-
Striped x white bass	X	-	-
Rock bass	X	-	-
Warmouth	X	-	-
Redbreast sunfish	-	X	-
Green sunfish	X	X	X
Bluegill	X	X	X
Redear sunfish	X	X	-
Smallmouth bass	X	X	X
Spotted bass	-	X	X
Largemouth bass	X	X	X
Yellow perch	-	X	X
Logperch	X	-	-
Sauger	X	X	-
Freshwater drum	X	X	-
Banded sculpin	-	-	X

*Forebay station located at CRM 24.0; mid-reservoir station at CRM 45.0; upper-reservoir station at CRM 58.8.

APPENDIX R

FLOOD PROFILES

Table R-1 - Clinch River-Melton Hill Reservoir Flood Profiles

River Mile	100-Year Flood	500-Year Profile	TVA Structure Profile	Landmark
23.10	796.0	796.0	800.0	Melton Hill Dam
24.00	796.0	796.0	800.0	
25.00	796.1	796.1	800.0	
25.20	796.1	796.1	800.0	
26.00	796.1	796.1	800.0	
27.00	796.1	796.2	800.0	
27.30	796.1	796.2	800.0	
28.00	796.1	796.2	800.0	
28.18	796.1	796.2	800.0	Hickory Creek
29.00	796.2	796.3	800.0	
29.40	796.2	796.3	800.0	
30.00	796.2	796.3	800.0	
31.00	796.2	796.4	800.0	
31.50	796.2	796.4	800.0	
32.00	796.2	796.4	800.0	
33.00	796.3	796.5	800.0	
33.60	796.3	796.5	800.0	
34.00	796.3	796.5	800.0	
35.00	796.3	796.6	800.0	
35.70	796.3	796.6	800.0	
36.00	796.3	796.6	800.0	
37.00	796.4	796.7	800.0	
37.80	796.4	796.8	800.0	
38.00	796.4	796.8	800.0	
39.00	796.5	796.9	800.0	
39.60	796.6	797.0	800.0	Beaver Creek
39.90	796.6	797.0	800.0	
40.00	796.6	797.0	800.0	
41.00	796.7	797.2	800.0	
41.16	796.7	797.2	800.0	Scarboro Creek
42.00	796.8	797.4	800.0	
43.00	796.9	797.5	800.0	
44.00	797.0	797.6	800.0	
44.10	797.0	797.6	800.0	
45.00	797.0	797.7	800.0	
46.00	797.1	797.8	800.0	
46.10	797.1	7978.	800.0 - 801.0	
46.20	797.1	797.8	801.0	
46.29	797.1	797.8	801.0	Bullrun Creek
47.00	797.2	797.9	801.0	
48.00	797.3	798.1	801.0	
48.10	797.3	798.1	801.0	Edgemoor Bridge
48.30	797.3	798.1	801.0	

River Mile	100-Year Flood	500-Year Profile	TVA Structure Profile	Landmark
49.00	797.4	798.3	801.0	
50.00	797.6	798.5	801.0	
50.08	797.6	798.5	801.0	Emory Valley Creek
50.40	797.7	798.6	801.0 - 802.0	
50.64	797.7	798.7	802.0	Braden Branch
51.00	797.8	798.7	802.0	
51.06	797.8	798.8	802.0	Ernies Creek
51.35	797.8	798.8	802.0	L & N Railroad
52.00	797.9	799.0	802.0	
52.50	798.0	799.1	802.0	
52.60	798.0	799.1	802.0 - 803.0	
53.00	798.2	799.3	803.0	
54.00	798.5	799.7	803.0	
54.40	798.6	799.8	803.0 - 804.0	
54.60	798.7	799.9	804.0	
55.00	799.0	800.3	804.0	
55.16	799.2	800.5	804.0	Yarnell Branch
56.00	799.9	801.4	804.0 - 805.0	
56.70	800.5	802.2	805.0	
57.00	800.7	802.4	805.0	
57.50	801.0	802.8	805.0 - 806.0	
58.00	801.3	803.1	806.0	
58.54	801.6	803.5	806.0	U.S. Highway 25W
58.80	801.8	803.7	806.0	
58.90	801.9	803.8	806.0 - 807.0	
59.00	802.0	803.9	807.0	
59.32	802.2	804.2	807.0	Southern Railway
60.00	802.8	804.8	807.0	
60.20	802.9	805.0	807.0 - 808.0	
60.90	803.5	805.7	808.0	
61.00	803.6	805.8	808.0 - 809.0	
61.70	804.5	806.7	809.0 - 810.0	
62.00	804.8	807.1	810.0	
62.30	805.2	807.4	810.0 - 811.0	
63.00	806.0	808.3	811.0 - 812.0	
63.67	806.7	809.1	812.0	Dismal Creek
63.90	807.0	809.3	812.0 - 813.0	
64.00	807.1	809.4	813.0	
65.00	808.2	810.6	813.0	
65.10	808.3	810.7	813.0	
65.20	808.4	810.8	813.0 - 814.0	
65.87	809.0	811.3	814.0	Hinds Creek
66.00	809.1	811.4	814.0	
66.15	809.2	811.5	814.0	

River Mile	100-Year Flood	500-Year Profile	TVA Structure Profile	Landmark
66.36	809.3	811.6	814.0	State Route 61
66.40	809.3	811.6	814.0 - 815.0	
67.00	809.6	812.0	815.0	
67.20	809.7	812.1	815.0 - 816.0	
68.00	810.6	812.9	816.0	
68.10	810.7	813.0	816.0 - 817.0	
68.90	811.6	813.7	817.0 - 818.0	
69.00	811.8	813.8	818.0	
69.30	812.1	814.1	818.0	
69.70	813.2	815.1	818.0 - 819.0	
70.00	814.1	815.9	819.0	
70.35	815.1	816.8	819.0	
70.50	815.3	817.0	819.0 - 820.0	
71.00	816.1	817.7	820.0 - 821.0	
71.40	816.7	818.3	821.0	
71.60	817.0	818.6	821.0 - 822.0	
72.00	817.6	819.3	822.0	
72.10	817.8	819.4	822.0 - 823.0	
72.45	818.3	820.0	823.0	
72.60	818.6	820.3	823.0 - 824.0	
73.00	819.3	820.9	824.0	
73.30	819.8	821.5	824.0 - 825.0	
73.50	820.2	821.8	825.0	
74.00	821.4	823.0	825.0	
74.10	821.7	823.3	825.0 - 826.0	
74.83	823.5	825.1	826.0	Interstate 75
74.86	823.6	825.2	826.0	Interstate 75
74.97	823.8	825.4	826.0	Coal Creek
75.00	823.9	825.5	826.0 - 827.0	
75.60	825.4	827.0	827.0	
75.80	825.9	827.5	827.0 - 828.0	Massengill Bridge
76.00	826.4	828.0	828.0	
76.40	827.3	828.9	828.0 - 829.0	
76.90	828.6	830.1	829.0 - 830.0	
77.00	828.8	830.3	830.0	
77.40	829.8	831.3	830.0 - 831.0	
77.70	830.5	832.0	831.0	
77.90	831.0	832.5	831.0 - 832.0	
78.00	831.3	832.8	832.0	
78.09	831.5	833.0	832.0	Clear Creek
78.40	832.4	833.8	832.0 - 833.0	
78.75	833.3	834.7	833.0	
78.90	833.8	835.2	833.0 - 834.0	
79.00	834.1	835.5	834.0	

River Mile	100-Year Flood	500-Year Profile	TVA Structure Profile	Landmark
79.40	835.3	836.7	834.0 - 835.0	
79.78	836.5	837.8	835.0	Norris Dam
D = Downstream at Bridge				
U = Upstream at Bridge				

APPENDIX S

RESPONSE TO PUBLIC COMMENTS

MELTON HILL RESERVOIR
RESPONSE TO PUBLIC COMMENTS

1. Comment: *Have briefly reviewed the Land Management Plan and support Alternative B. I may submit more detailed comments later.*

Comment by: Marcy R. Reed, Executive Director, Tennessee Citizens for Wilderness Planning

Response: Comment noted.

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2. Comment: *I am concerned about Parcel 49 being listed as Recreation, because my property is next to it. This could be very detrimental to the value of my property. I would request that it be limited to day use only.*

Comment by: James Jay Jernigan

3. Comment: I appreciate your indicating that you would consider these comments on the *Draft EA Melton Hill Reservoir Land Management Plan,* October 1998. Comment 1: As far as we know, only two of the people who own land surrounding Parcel 49 of Alternative B received a copy of the EA and only one knew about the public meeting. The person who knew about the meeting could not attend. We understand TVA made an effort to identify those owning land around each parcel of land; however, none of the people in the neighborhood of Parcel 49 were contacted until AFTER the public meeting. We as a community need to understand how to assure future communication reaches those who own property around each parcel. Under a separate cover letter we will provide a list of those people who want to be kept informed in the future. I alerted our community to this problem on February 6, 1999. February 6, 1999, was the first time we heard of the EA and was the first time that six of our neighbors heard of the EA. Comment 2: After contacting eight neighbors around Parcel 49, none of them want the land designated as Developed Recreation. Their concerns include: (a) The parcel is difficult to see and therefore if used for recreation difficult to patrol. (b) From 1978-86, illegal activities such as drug sales and rape occurred on this parcel of land. The community has just gotten a gate at the edge of the water and posted signs indicating that the property is not for public access. After the gate and postings were put in place, the illegal activities have ceased. (c) Should this property be considered for recreational activity, the community is very concerned that property values will decrease. (The home across from the parcel was very difficult to sell due to the illegal activity previously described.) Comment 3: Section 3.9 of the EA normally evaluates specific socioeconomics of implementing Alternative B for each parcel of land. The current discussion is very general and relates to the counties as a whole but does NOT address the effect of Alternative B on each parcel of land. An initial attempt to evaluate each parcel was begun in Appendix E but was not carried through in the socioeconomic evaluation section of the EA. If this had been done considerations such as overland (road) access compatibility of adjacent land use and land ownership would have resulted in Parcel 49 being designated as either Zone 2 or 7. Parcel 49 has little access by road, is used as a navigation safety harbor and therefore is not suitable for "commercial recreation, public recreation, or water access." In order to use Parcel 49 for commercial or public recreation, extensive widening of the roads would be needed. Additional law enforcement activities would be needed as the area is secluded and has been plagued by misuse resulting in a decrease in property values in the 1984-86 time frame. An appropriate response to this comment is to reevaluate each parcel based on the specific information given in Appendix E and present a parcel by parcel evaluation as opposed to a

general socioeconomic assessment that is not sufficiently detailed by parcel of land. Comment 4: The Proposed Land Management Plan (LMP) in Appendix F does not indicate that TVA will still maintain the final review and does not indicate that the public will have any additional input to the recreational development of each parcel designated as Zone 6 (Developed Recreation). The Land Management Plan does not indicate how implementation of the plan will be performed. Section 1.4 of the Ea indicates that TVA will still have the right to review and approve each action for each parcel, but this is not indicated in the LMP. The LMP should be amended before the TVA Board approves the LMP and it should indicate that the community surrounding the parcel along with TVA will approve the future actions for each parcel. At a minimum, each family owning land surrounding each parcel should be notified in writing at least six months before any change in land use or zoning and should be allowed to voice concerns. Comment 5: Through out the EA, land listed under Zone 6-Developed Recreation, under Alternative B does not indicate that any restriction such as day use only will be applied. It should be clearly stated that Zone 6 usage includes day use.

Comment by: Mark and Mitzi Miller

4. **Comment:** We agree with the comments submitted by Mark and Mitzi Miller (re: letter February 28, 1999) concerning the *Draft EA Melton Hill Reservoir Land Management Plan.* We do not wish Parcel 49 of Alternative B to be designated as Developed Recreation.

Comment by: Bonnie C. Carroll, Roy H. Cooper, Leigh Cowan, Dewey and Irene Large, Gordon and DiAnna Turnage

5. **Comment:** My husband and I are very concerned about Parcel 49 at the end of Fox Park. We live directly across the street from that piece of land. The street is actually as narrow as a single car driveway. There is no way for two cars to pass each other on that street. There is only one way in and one way out. We bought this house four years ago. One of the main reasons was because it was on a dead end street. We have two young children who ride their bikes on that dead end street. The neighbor children also ride in front of our house. If that land was turned into a day park, there would be too much traffic in the area. There would also be a lot of strangers in the area, and we would not feel like our children could play as freely. We were not aware of this land being considered for a day park, and we will do anything to help prevent that from happening. Please let us know if we can do anything else. Thank you for your time and attention.

Comment by: Dee and Gordon Turnage

Response: In the Draft EA Parcel 49 was allocated for Zone 6, Recreation, as a result of Knox County's interest in the land for future day-use recreational activities. A subsequent meeting was held on March 25, 1999, at which 32 community residents objected to this allocation, due to past abuses. They preferred to have this parcel's designation reflect its current informal uses. Due to these objections, Knox County withdrew its interest in this parcel. Since this was the overriding reason for the designation to Zone 6, we changed our allocation to Zone 4, Natural Resource Conservation, which will more accurately reflect the current uses by the community and the general public (i.e., hiking, fishing, swimming). Requests for water-use facilities will not be considered.

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6. **Comment:** *I am with DOE Environmental Management Technical Services Team and was asked to review the subject document. The document was well written and very interesting. My comment is as follows. The EA states that reservoir sediment contains low*

levels of PCB, chlordane, mercury, radionuclides, and arsenic. Two of the references for this statement are listed as Lockheed Martin Energy Systems, 1996a and 1997. These references are the Oak Ridge Reservation Annual Site Environmental Report. *Inspection of these reports indicates that there are only two sediment-sampling locations on Melton Hill, including CRM 80 and 84. The Oak Ridge reports for the years 1995 and 1996 state that there is no evidence of PCB contamination at the CRM 80 and 84 sites.*

Comment by: David M. Carden, Environmental Engineer, Department of Energy

Response: Comment noted. The EA has been changed to reflect this comment (see Section 3.7.1).

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7. Comment: *I support the selection of Action Alternative B. It will do a better job of protecting the environment while preserving the needs of TVA to operate its facilities as a system than Alternative A. I found a few things that should be corrected in the final version.*

- *Table 2.2.1-2 and the definitions given in Table 2.2.1-1 are not the same. Table 2.3-1 includes Pump Stations and No Forecast, which were not defined in Table 2.2.1-1.*
- *Exhibit 2, referred to on page 15 (of the draft), has no difference in shading for lake and committed land for panel 2 (panel 1 is fine).*
- *Appendix F needs page numbers. Text on pages X-125 and 126 seem orphaned; perhaps the parcel descriptions should be at the end.*
- *The words about Table F-2 on page X-125 (of the draft) do not give a clear understanding of its intent.*
- *I note at least one parcel change—Parcel 53 from Natural Resource Conservation to Residential.*
- *I found the information given in the document interesting.*

Comment by: Barbara A. Walton

Response: The tables have been changed to reflect these comments. The final maps will be printed in color and should eliminate the problem of distinguishing between shades of gray. The final Melton Hill Reservoir Land Management Plan will be printed separately as Volume II, and pages will be numbered appropriately. The text on pages X-125 and X-126 (draft EA) and the parcel descriptions have been moved to improve the flow of the material. The sentence describing Table F-2 (now Table 1 in Volume II) on page X-125 in the draft EA was reworded for clarity. The table provides a complete listing of each parcel and its corresponding zone without having to review the map. The land-use zone was corrected for Parcel 53 on page X-127 (in the draft EA).

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8. Comment: *Quite a number of Tennessee Citizens for Wilderness Planning (TCWP) members attended the Open House on November 30 at which TVA staff provided information and answered questions about the Draft Environmental Assessment (EA) for the Melton Hill Reservoir Land Management Plan. Several of us had earlier returned the questionnaires that were distributed by TVA in 1997 as part of the scoping process, and we read major portions of the Draft EA when it became available in November of 1998. TWCP strongly supports Alternative B. Altogether, 1,868 acres (Zones 3 and 4) are allocated to protection and conservation of sensitive and natural resources. Within this acreage,*

Alternative A, by contrast, would allow 592 acres for industrial development, 684 acres for public recreation, 96 acres for commercial landings, etc. Clearly, Alternative B protects a larger proportion of the total lands.

Comment by: Liane B. Russel (for the TCWP Board)

Response: Comment noted.

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9. Comment: *In reference to the* Draft Environmental Assessment Melton Hill Reservoir Land Management Plan's *Alternative B, I feel that Parcel 44 and the south part of 45 should be zoned as Residential Access.*

Comments by: 124 form letters. Elmer Ammons, Harry Bailey, Lester Barnett, Bonnie S. Baxter, Libbie Baranowski, R. A. Barnum, Randy and Anita Burk, Jimmy L. Blair, Jackie Blevins, Christine Boring, Lisa Breedlove, David Campbell, C. E. Childress, John Childress, L. D. Chitwood, Carolyn S. Coker, Chris Coker, J. T. Crunely, Edward Currence, Jane Dean, Richard DeBusk, Darbie Dickert, H. G. Dickert, Trey Dickert, David Druff, Caleb Dugger, Cindy Dugger, Katie Dugger, Barbara Flynn, Lisa Forsythe, Danny Fritz, William C. Funk, Jeff Galyon, Pamela D. Gary, David H. Gentry, Wendy Glass, Deanna Goodman, Gary P. Grant, Randall S. Greer, T. Greenlee, Gail Greenlee, James R. Guffin, Janet Haws, Karen Henry, R. H. Holbrook, Connie Hollman, Anthony Hopson, Faye Hughes, James Hughes, Peggy Jenkins, T. N. Jones, Kenneth E. Kile, Sr., Cindy Koelsch, David Koelsch, John Koelsch, Shelie F. Koelsch, Richard Koelsch, Reba Lane, Jill Lambdin, Earl R. Layman, Sherri Layman-Childress, Alan C. Lensgraf, Allison Lensgraf, Tony McBeene, M. K. McDowell, Steve F. McHugh, M. S. McGuiness, Vrisie D. McWhirter, B. Mays, Chester K. Mays, Lori Maze, Mark L. Medley, James W. Melton, Michelle Moore, Jaynetta Neely, Howard Nitzberg, Kailey Osborne, Charles L. Overstreet, Wayne Owens, Bruce Parks, Donald Pettitt, Carol Pipkin, Trudi Pullin, Wayne A. Rains, Bobby Reeves, Charlotte Rigney, Carol Rohling, James Rohling, Jr., Hubert Rohling, Carl J. Rutherford, William C. Sampson, Amy Schumpert, Chuck Schutt, Jerry W. Scott, Bill Shanks, Brynn Sherer, Wendy Skinner, Charlotte Smith, David Smith, Martha D. Spicer, James P. Spiller, Darlene St. Clair, Melanie Stone, Mary E. Styles, Barbara W. Taylor, David Thomas, William L. Thomas, Carolyn Thompson, Dan R. Thompson, Deborah E. Thompson, Sherry Tuppin, R. L. Tyler, Doug Varner, Joan B. Watts, Joey Weaver, Daniel C. Welsh, Kathryn Welsh, Dave Yannitell, and 10 illegible signatures

10. Comment: *The part of the lake adjacent to my lot is MHR-702(A). The (A) denotes a tract on which seller has rights of access to lake. The* Shorelinks *sent with the SMI defines (on page 3) the term "Access Rights . . . provide the right to cross and recross such lands for the purpose of ingress to and egress from said water and allow the landowner to request TVA permits for proposed docks and other water-use facilities." The previous land owner was assured by TVA that he would retain the right to access the reservoir along a 524-foot section and that such access rights included the right to build water-use facilities. Before I purchased the property, I contacted Mr. Montgomery to get the subdivision layout and other documents. He verified TVA had given him permission to build boat facilities. I understand that TVA has consistently equated shoreline access rights with the right to build water-use facilities. A property owner with access rights has always been deemed to be an abutting property owner. Since most of the land on the other side of the lake is owned by DOE, the lake has plenty of land for Natural Resource Conservation. It has severe soil erosion. By allowing water-use facilities TVA would actually assure a cleaner, more scenic shoreline since the facility user would have a greater incentive to keep it cleaned up. In order to meet TVA's past commitments and to improve its image, TVA must declassify Parcel 44 and part of 45 to Residential Access. Please inform me when this has been changed.*

Comments by: Jane D. Koelsch, Richard Koelsch and Dave Yannitell

11. Comment: *My property is Lot 8 C in the Morgan Place Subdivision. I am requesting all or a portion of Exhibit 1, Tract 34R be changed to Reservoir Operations (the Forecast) or all or a portion of Exhibit 2 (the Plan) Parcel 44 be changed to Zone 7, Residential Access. This is so I can apply for a dock permit. There has been some confusion as to the extent of the land transferred to Knox County for use as a public park. I was told incorrectly when I purchased the property that the land immediately behind my house was part of the Knox County Park. In summary, (1) this property does not interfere with Knox County Park; (2) adjacent parcels/tracts downstream are allowed to have docks; (3) the original landowners were told or under the impression that a dock could be established; (4) TVA's definition of Access Rights is similar to the Warranty Deed; (5) a dock will not impede navigation on Melton Hill Lake or cause a hazard; (6) a dock encourages use of the property and good stewardship on the part of the landowner to preserve the natural beauty as well as remove trash, debris, and prevent erosion in the area; (7) a dock would have no negative impact on the mammal or aquatic life.*

Comments by: Arby D. Dickert, Linda Dickert

12. Comment: *For many years I have been disturbed by the way TVA treats the owners when they purchase land. In 1962, TVA purchased 43.6 acres of my property on what is now Melton Hill Lake. I told Mr. I. R. Wilson, the TVA land buyer, that I was not going to sell until several things were resolved. During the buying process, I was given many assurances, some of which were not true. I now feel these tactics were used just to persuade me to sell. Some of these were: (1) the boundary which we walked was later changed without consulting me; (2) my land was never restored despite TVA's repeated assurances that it would be put back in good condition; (3) despite repeated assurances to the contrary, I was not allowed to harvest the timber from the land which was sold to TVA. I was also assured that I would retain the right to build boat facilities anywhere along a 524-foot section of the 1,190 feet of shoreline that was being transferred to TVA. I obtained a letter dated March 22, 1962, from Maxwell A. DeVoe which guaranteed me access rights which they said meant the right to build boat facilities. I asked about the words "shall not include the right to alter the surface of said land or to construct or place thereon any structures or improvements" and was told that I only had to apply for a 26a permit. TVA continues to take away things that were agreed to, both verbally and in writing. It has just come to my attention that now TVA will not grant the present land owner the rights to build boat facilities. This is wrong. I realize that nothing can be done now to remedy the timber, boundary, or land-restoration problems. However, TVA can easily keep its word by not taking away the boat facility access rights which it had promised me. I feel TVA must take action to correct this and to prevent such things from happening in the future.*

Comment from: D. D. Montgomery

Response (for comments 6,7, 8, and 9): Parcel 44 was previously forecast for Public Recreation purposes and not available for the construction of private water-use facilities. After much study and further reevaluation, TVA staff have concluded that no additional shoreline should be made available unless the no-net-loss provisions of the maintain-and-gain strategy can be met. Parcel 45 was transferred to Knox County in 1964 for public recreation purposes. The deed for this property includes ". . . nonexclusive right to cross and recross such lands for the purposes of ingress to and egress from said water . . . provided that this right shall not include the right to alter the surface of the land herein conveyed or to construct or place

thereon any structures or improvements." Our records do not indicate that there were promises made, either verbally or in writing, that docks could be constructed on the TVA land fronting the above-mentioned property. Allowing private water-use facilities on this parcel would not be compatible with the transfer agreement for public recreation purposes on Parcel 45. However, access across this parcel is encouraged as it is for all members of the general public. In accordance with the SMI Blended Alternative, the Melton Hill Reservoir land use plan reflects residential access areas (Zone 7) where they currently exist.

13. Comment: *I live near the Worthington Cemetery tract and have a view of the area. My neighbors and I feel very strongly that the undeveloped and wild character of this land should be maintained. The land supports many wildlife and bird populations and represents a precious commodity that deserves to be preserved. There are also rare species of birds present which is why one ornithologist moved to this area. Also the area is enjoyed by walkers, scouts, and others looking for a beautiful and unique area convenient to population centers. I am strongly in favor of no development of the area whatsoever and hope that TVA will do its part to see that this be zoned as restrictively as possible to ensure its preservation as undeveloped. Any zoning of this parcel as industrial would be very upsetting.*

Comment by: Richard Goldfinger, Ph.D.

14. Comment: *I strongly support Alternative B of the EA of the Melton Hill Reservoir Land Management Plan. I feel that Alternative B would protect the scenic beauty and natural resources of the Melton Hill Lake. Under Alternative B, the Worthington Cemetery-Cedar Barren educational area would be protected. I urge adoption of Alternative B. Thank you for your time and consideration in this matter.*

Comments by: 24 form letters. Glen Anderson, Lorella Beganie, L. Antonino Bilello, Kenneth R. Bonham, Pat Bonham, Gretchen Byrge, Kay Conner, Kathryn W. Davis, Richard Davis, Linda Grooms, Fred Jones, Frances D. Lowe, Faye McDonald, Trevor Allen Noe, T. Nguyen, Elizabeth Pease, Paula Post, Rebecca Rayborn, Jack Rogers, Lisa Rogers, Margot Spore, Kyle A. Turner, Kim Whalen, Donna Whedbee

15. Comment: *I am the former president of The Rivers Homeowners Association. I support Alternative B, specifically as it relates to the Worthington Cemetery tract. The City of Oak Ridge, by unanimous vote of the City Council, has designated it a greenbelt area, and so it is appropriate that Alternative B's designation of sensitive resource management, Zone 3, be applied. The most northern portion of Parcel 108 should also be designated in the most shoreline conservative manner as well.*

Comment by: Dan Robbins

Response (for comments 10, 11, and 12): Comments noted. The Worthington Cemetery tract (and all of Parcel 108) has been placed in Zone 3, Sensitive Resource Management, to protect sensitive cultural, heritage, and wetland sites. Alternative B, the preferred alternative, would provide the protection necessary for the sensitive resources that have been identified as well as scenic value to both boaters and area residents. TVA realizes the uniqueness of this parcel and appreciate all efforts to keep it free of trash and debris. For more detailed information on Parcel 108, see the *Melton Hill Reservoir Land Management Plan.*

16. Comment: *I have reviewed the draft and I am very surprised by many of the document's conclusions. Anderson County is facing grave economic consequences from layoffs at the Oak Ridge Department of Energy facilities. The impact of these layoffs has already been felt in Oak Ridge and the surrounding communities. Worry about the future is a constant fact of life for many Anderson County inhabitants. In the draft EA, there is no mention of these pressing economic issues. If I have read the draft correctly, only 1 percent of the land will be devoted to economic development. While there is no reason to expect most of the land to be devoted to economic development, 1 percent seems absurd considering the difficulties confronting the local population.*

Comment by: Michael S. Moran (Controller, IRAS North America)

Response: Comments noted. Economic conditions such as layoffs at the Department of Energy Oak Ridge and other facilities are always a concern to the whole community. TVA believes that its Melton Hill Reservoir Land Management Plan will enhance public recreation and allow a good climate for economic growth and development. The 1 percent that you mention is designated for economic development is in Zone 5, Industrial/Commercial Development. This percentage does not include former TVA land that has already been sold for industrial purposes (namely Carden Farm and Eagle Bend Industrial Parks) but rather the shoreline fronting this land. Due to the amount of land still available for development in the Carden Farm Industrial Park and the surrounding areas, additional land was not requested for this zone. See Section 3.9 of the EA for more detailed discussion of Socioeconomics.

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17. Comment: *The Fish and Wildlife Service (Service) has reviewed the document and offers the following comments. The EA adequately describes the resources within the project area and the proposed actions' impact on these resources. The Service prefers the Action Alternative B for TVA's involvement in the land management plan and believes it will benefit fish and wildlife of the area and provide additional recreational opportunities.*

Comment by: Lee A. Barclay, Ph.D., Field Supervisor, United States Department of the Interior, Fish and Wildlife Service

Response: Comment noted.

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18. Comment: *We appreciate the work that the TVA staff have given to the SMI and Land Management Plan and the scheduling of open hearings to provide opportunity for feedback from the public. We have written regarding the possibility of redesignating small portions of the shoreline from Zone 4 to Zone 7 in Alternative B. However, if that redesignation is not possible, we are concerned with what can be done by persons who own property adjoining strips of Zone 4 shorelines. The Land Management Plan is not totally clear as to what might be allowed. Some of the wording on page 21 makes it appear that it may be feasible for property owners to install limited sized boat docks if the shoreline appearance is kept within the guidelines set forward by the Plan. We would appreciate your clarifying this possibility. Specifically, we are concerned about shoreline lots 133-143 within Parcel 123 as designated Zone 4 in Alternative B. It has been indicated to us that those of us in this section may not be allowed to install boat docks, and we hope that some alternative variation might be considered for the following reasons: The maintain-and-gain concept that has been suggested appears to be preferential to large land developers and industrial site developers who often are assisted by planning commissions or development offices of municipalities. The individual residential home owners do not have access to such professional staffers to assist them*

in swaps and trade-offs. Also, it is not financially feasible for single property owners to avail themselves of this option for the mere purpose of installing a dock. In contrast, the large developers are involved with multimillion-dollar deals and trade-offs overseen or arranged by governmental officials. Therefore, we hope that some other variation could be made for the individual homeowners.

If however, redesignation of the zoning category of this area of shoreline is not possible, we hope that consideration might be given for some compromise in access for property owners abutting Zone 4 shoreline, other than the maintain-and-gain concept which favors large developers and which seemed to be the only option acknowledged by TVA staffers at the open hearings. This possibility appears to be suggested as feasible by the following statement in the Land Management Plan when referring to Zones 3 and 4 shorelines: "Also, some development changes could take place under these management designations, as long as their placement and appearance are subordinate to the general visual characteristics." (page 21) This passage would suggest the possibility of some type of trade-off for individual home owners adjacent to Zone 4 shorelines by allowing them to have some appropriate minimal dock access, "size of docks is limited, which would lessen the visual impacts to the reservoir." (page 21) The owners might be asked to conform to more strict and proscribed shoreline enhancements that are not expected of property owners adjacent to Zone 7 shorelines. For example, there could be the requirement to install riprap as well as develop (or leave as undeveloped) some percentage of the shoreline with stabilizing plantings of trees and shrubs and/or to develop a natural vegetation buffer zone or other variations as appropriate. We hope that the above suggestion will be given serious consideration as an alternative for small property owners, rather than the maintain-and-gain proposal. We would appreciate hearing your thoughts on this, and we would be most willing to discuss the above further if desired.

Comments by: Judith Carson, Don Morrison, and Garry Whitley, Jr.

19. **Comment:** *We that live on lots 133-143 have mowed this land for years. We would also like to be able to install boat docks like the other land owners in this subdivision. We feel this strip of shoreline has been maintained to some degree by the private land owners who install riprap and maintain the vegetation. The current stipulation that one could trade an access on one property to that of another is, we feel, not practical for an individual as it might be for a real estate developer or a community. We feel that if the rules and the property on TVA land is left statuesque that the very things that we as property owners, the public, and TVA want to help ensure (clean water, enhanced scenic quality and wildlife habitat) will not improve. We propose that TVA consider docks on lots 133-143 with the condition that anyone given a permit must install riprap and improve the shoreline with native plants. We feel that a variance with these conditions is a must and we could improve our shoreline.*

Comment by: Hugh L. Martin

20. **Comment:** *I am a resident of Mariner Point and we as a group really hope that TVA will consider changing the zone to residential and can just try to work together to seek a compromise.*

Comment by: Bob Keim and Judy Carson (comments taken by court reporter)

Response (for Comments 18, 19, 20): One of the key questions addressed by SMI is "Should TVA open additional shoreline for residential access?" The access issue has been thoroughly examined throughout this study. During the 1996 public review of the SMI Draft EIS, TVA encountered strong public opposition to the proposed opening of additional shoreline for residential access. One of the Mariner's Point lot owners who does not have access privileges opposed additional shoreline development at this location. To address both the public interest in preserving additional shoreline and to provide opportunities for consideration of creative access proposals, TVA developed the maintain-and-gain strategy.

All comments received in response to the *Draft Melton Hill Land Management Plan* and the Final EIS for the *Shoreline Management Initiative* have been thoroughly examined. The arguments presented in favor of additional access are not substantially different than those previously examined by TVA. TVA remains convinced that the maintain-and-gain strategy presents realistic opportunities for creative proposals by both property owners and developers.

Mariner Point is not the only subdivision on Melton Hill or other TVA reservoirs where some lots adjoin property allocated for purposes other than residential access. What seems to be a simple matter of permitting a few docks at one location becomes compounded when the concept is applied across the Tennessee Valley, as evidenced by the findings of the SMI FEIS. The situation at Mariner Point is not unique or isolated.

It is extremely important to note that neither SMI nor the *Melton Hill Plan* take away any access privileges or landrights from the owners of lots 133-143. Letters to this effect are on file. This is not the first time the access issue has been raised at this location, and TVA has consistently maintained the position that docks are not permitted at this location.

The intensity, size, and type of development fronting lots 133-143 in Mariner Point are not the immediate issue. The issue is whether additional shoreline should be made available for residential access. After much study and further reevaluation, TVA staff have concluded that no additional shoreline should be made available unless the no-net-loss provisions of the maintain-and-gain strategy can be met.

The SMI recommendations treat all TVA reservoirs consistently because requests for Section 26a permits or land use approvals for docks and other shoreline development will be considered only where access rights now exist. The amount of developed shoreline will vary from one reservoir to another because there are variations in the amount of shoreline currently available for access. TVA will continue to consider requests for water-use facilities in areas where access rights currently exist. SMI policy will apply consistently to all reservoirs, and standards will apply where access rights currently exist.

The percentage of residential access is lower on Melton Hill than some other reservoirs. This is in part a reflection of the fact that Melton Hill was impounded later than most other reservoirs and at a time when there was growing interest in natural resource stewardship. Melton Hill is one of TVA's smaller reservoirs and is more riverine in character than most reservoirs. As open space continues to become more scarce, the importance of TVA public lands and shorelines will increase. It is essential to remember that the amount of residential development on Melton Hill could potentially double, based on existing access rights.

Comments received about both SMI and *Melton Hill Reservoir Land Planning* support keeping public land available to meet resource management and protection needs.

Neither SMI nor the *Melton Hill Plan* totally prohibit considering the granting of access at this location. The maintain-and-gain shoreline strategy would be used to determine if additional

access rights should be granted. Proposals would be considered for exchange of access rights that would result in no-net-loss or preferably a net gain of public shoreline.

Individuals can work collectively with others in developing maintain-and-gain proposals. These proposals will require an investment of a property owner's time to locate areas where individuals may be willing to relinquish access rights.

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21. Comment: *The draft EA (DEA) and* Land Management Plan *have been reviewed with regard to the National Historic Preservation Act compliance by the participating Federal agency or its designated representative. As stated in the DEA, all future undertakings within the Melton Hill Reservoir Property will need to be reviewed individually by this office in accordance with Section 106 of the National Historic Preservation Act. Until such time as this office has rendered a final comment on future individual projects within the Melton Hill Reservoir property, your Section 106 obligation under Federal law has not been met.*

Comment by: Herbert L. Harper, Executive Director and Deputy State Historic Preservation Officer, Tennessee Historic Commission, Department of Environment and Conservation

Response: TVA contracted with the University of Tennessee, Department of Anthropology, to conduct an Intensive Phase I, Cultural Resources Survey of all TVA fee-owned lands on Melton Hill Reservoir. The report on the findings and recommendations for that survey will be submitted to the State Historic Preservation Office (SHPO) in the spring of 1999. The Phase I survey was conducted under Section 110 of the National Historic Preservation Act, which sets out the broad historic preservation responsibilities of Federal agencies and is intended to ensure that historic preservation is fully integrated into the ongoing programs of Federal agencies. Implementation of the *Melton Hill Land Plan* would invoke the Section 106 process, requiring TVA, in consultation with the SHPO, to consider the effects of the proposed undertaking and to identify and evaluate eligibility for inclusion to the National Register of Historic Places any historic resources which could be affected. A treatment plan would be implemented in consultation with the SHPO and the Advisory Council on Historic Preservation for any historic resources eligible for inclusion to the NRHP that would be adversely affected by the proposed undertaking.

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22. Comment: *Our property is located on Melton Hill Lake at river mile 34.1 We are located adjacent to a narrow portion of Parcel 30 which extends between our lot and the lake. The designation of this parcel on the forecast map is Commercial Landing. While there is no definition for this specific term in Table 2.2.1-1, Forecast Designation Definitions, we assume that it falls under the forecast description of Commercial Recreation. The definition of this term is "Land that TVA has reserved primarily for commercial use" - this use includes but is not limited to marinas, commercial boat docks, and campgrounds. Informal, dispersed recreation activities often occur on this land as an interim use." This property has a dirt road through it and is accessible at most times only by a four-wheel drive vehicle. About the only use of the property by the public is for purposes that are undesirable to adjoining property owners such as drinking, partying, target practice with firearms, etc. There are absolutely no developed facilities on the property, and it is impossible to launch any type of boat there except for a canoe that must be carried to the lake. On June 17, 1976, TVA issued a permit to build a set of steps, landing, and a floating dock on this parcel which allowed access from our lot, across the TVA tract, to the lake. This was done with the stipulation that a sign be put on the dock that it was for Public Access and Use. I understand that this was because the TVA parcel was to be*

used for future public recreation use. The TVA files that I examined also chronicle several other events from 1976 to the present that include notice that the floating dock was stolen, a request that the permit be transferred, requests from subsequent owners for private docks that were denied, and an offer from TVA to allow a "walkway" across the TVA parcel to the lake. The requests for private docks were denied because the TVA parcel was designated for a Commercial Landing. I was notified that Melton Hill was preparing a reservoir land use plan and, therefore, I did not pursue a request for a permit at that time.

Parcel 30 was designated (in the forecast) for a Commercial Landing. The reason why we were not allowed to have a dock was because it would limit access to a Commercial Landing. It is clear from the draft EA that the presence of the cultural resources and wetlands on this parcel and your proposal to change it from a commercial landing to Sensitive Resource Management would negate the need to restrict a private dock on our property in order to protect access to a commercial landing. I find it interesting that Exhibit 1, the forecast map, states that the acreage of Parcel 22R is 11.9 acres. Exhibit 2, the Draft Allocation map, puts the acreage of Parcel 30 at 11.4. This difference of .5 acre would be more than enough to allow for the land between us and the lake to be opened to Residential Access.

It appears that the reason that Parcel 30 will be deemed off-limits for access from our property is because of two factors. It will not be because of a future commercial landing but instead due to the presence of cultural resources and wetlands. Secondly, TVA has, as a part of the SMI process, made a decision that no new TVA public land be opened up to development. We contend that that the removal of Parcel 30 from its designation as a Commercial Landing and changing it to Sensitive Resource Management will actually result in approximately 1,000 feet of shoreline being eliminated as a potential candidate for development and therefore there is a net decrease in land available for development on Melton Hill in our area. A change of approximately 170 feet of our land that abuts this parcel on the lake will not increase the amount of land available for development on Melton Hill and therefore would not be in conflict with the provisions of the SMI, in fact, there would be a net decrease in shoreline available for development. Therefore, I would request that TVA change the designation of the portion of Parcel 30 adjacent to our property from Commercial Landing to Residential Access. I do agree that the primary part of Parcel 30 remain in Sensitive Resource Management due to the location of the cultural resources.

Comment by: Steven A. Fritts

Response: The definition of *Commercial Landing* was inadvertently omitted from Table 2.2.1-1 but has been added. There are several differences between the designations *Commercial Landing* and *Commercial Recreation.* Commercial Landings, which was one of the forecast designations for Parcel 30, can be used for transferring pulpwood, sand, gravel, and other natural resource commodities between barges and trucks. Since this use is an intermittent use and usually not a major activity, there would generally be no significant impact on adjacent land uses. *Commercial Recreation* refers to uses such as marinas, commercial boat docks, and campgrounds. The acreage difference on this parcel from what was originally forecast is due to more sophisticated computer equipment that more accurately calculates the acreage. The maintain-and-gain shoreline strategy would be used to determine if additional access rights should be granted. Proposals would be considered for exchange of access rights that would result in no net loss or preferably a net gain of public shoreline.

23. Comment: *I am specifically addressing the property that I currently lease for agriculture. My position is that we would want and request that the property that we now lease remain in the same context that it is now. We would be very much against this being turned into hunting due to the fact that they're within 100 yards (or less) of the TVA property. There are at least five dwellings, and we raise horses. Active hunting going on would cause the horses to panic, and they would run through fences and kill themselves. So basically, our request is to maintain the leased property in its current state.*

Comment by: Glen Jenkins (comments taken by court reporter)

24. Comment: *I'm very concerned about this alternative plan. It doesn't say anything about agriculture, or what have you, as to the farmland down there on Bull Run Creek. And so I don't know anything about it. TVA came in there and fenced off part of the land and it doesn't make any sense to me. None of this makes any sense to me.*

Comment by: Carl Hoefer (comments taken by court reporter)

Response (for comments 23 and 24)**:** Following the completion of the *Melton Hill Land Management Plan*, TVA natural resource specialists will be developing a written unit management plan, with an emphasis on public input, that will provide for a long-term management strategy for parcels planned for natural resource conservation and sensitive resource management as designated in the Land Management Plan. Most of the current agricultural license tracts will be considered in the development of this natural resource management plan. Because of this ongoing planning effort, TVA has decided to extend the agricultural license period for one year to expire on December 31, 1999. At that time TVA will determine if certain tracts of land will remain in the agricultural license program as currently managed or will be modified to meet customer-identified and planned natural resource management needs. The fencing in Bull Run Creek was placed on the TVA property line to eliminate negative impacts of cattle in the creek and on the adjacent wetlands. Tennessee Wildlife Resources Agency (TWRA) is responsible for establishing and enforcement of regulations related to hunting on TVA land and water. We have sent this comment to TWRA for their information.

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25. Comment: *Thank you for this opportunity to comment on the Melton Hill Reservoir Land Management Plan. We are very pleased to see TVA working to complete plans for the remaining reservoirs. In general, we are pleased with the DEA for Melton Hill Reservoir. The document is thorough and readable. We are also pleased to note that 1,868 acres of the land under TVA control will be managed for Sensitive Resource Management and Natural Resource Conservation. This designation for these lands is vital considering the development of the Oak Ridge Area and the ever-increasing growth pressures. While we do have some concerns regarding the preferred alternative, the League generally feels that the "no action alternative" is not acceptable. Our concerns with the Recreation category are factually based upon the lack of overall goals and objectives for the management of TVA's land and water stewardship programs and TVA's past record of selling and leasing public lands to private entities. These two realities lead the League to question TVA's commitment to its land and water stewardship programs. We feel the Recreation is too broad. Based on this concern, we present the following comments.*

Parcels 14, 16, 36, 45, 49, 79, 84, 91, 115, 119, 138, 154 - These parcels have been zoned for Recreation. The League supports the current use of these parcels and recommends that TVA take steps to permanently dedicate the parcels to their current use.

Parcel 21 - This parcel is substantial in size and has a shape and location conducive to natural resource management. In the draft environmental assessment (DEA) this parcel is designated for recreation. The plan goes so far as to mention this parcel as a site for a future marina. The League is opposed to TVA using this parcel for private commercial development. This parcel has significant natural resources and already receives significant informal recreation. Due to the rapid loss of areas for informal recreation in the Oak Ridge area, we strongly recommend that this parcel be redesignated as Natural Resource Conservation with an emphasis on informal recreation.

Parcel 59 - We feel strongly that the current uses of this parcel should continue and that the area should not be developed further. This area is in an increasingly popular location but also contains significant natural resources. The location of the parcel next to Bethel Valley Road makes this parcel important as a public land buffer to the reservoir and as a water quality buffer. We recommend that TVA continue the current uses, but not expand the development of the area. In doing this, TVA will protect the associated natural resources and will prevent future conflicts related to its power transmission right-of-way. Also, TVA could consider dividing this parcel in two separate parcels (59a and 59b). One parcel could reflect the current recreational use (which we would like to see remain as it is currently), and another new parcel could be placed in the Natural Resource Conservation category. This is our preferred solution.

Parcel 102 - We recommend that this parcel be reclassified into the Natural Resource Conservation category because: (1) the parcel contains sensitive wetland and vegetation as described in the DEA, (2) the parcel acts as a buffer because it is adjacent to a highly developed portion of the Oak Ridge community, (3) the parcel already receives informal recreational use, and (4) the parcel acts as a water quality buffer to the reservoir.

The League would like to see action plans that specifically address how TVA will establish buffer zones around nesting birds (page 53, DEA) and TVA plans to implement a net gain of public shoreline on DOE properties. Also, we would like an explanation as to how TVA has jurisdiction over residential shoreline alterations of publicly owned Department of Energy shoreline (page 53, DEA). While we understand that some commercial recreational opportunities are desired by the public and are warranted, we feel that the overall public will better be served if these areas of TVA shoreline remain as natural as possible. This management strategy will help to provide informal recreational opportunities, protect viewsheds, and increase the quality of life for lake users.

Comment by: Michael A. Butler, Natural Resource Specialist, Tennessee Conservation League

Response: Under Zone 6 (Recreation) opportunities will exist for consideration of a range of activities that require capital improvements and maintenance to accommodate the needs of an expanding recreating public. However, Zone 6 also provides areas for interim informal use and open space. The full range of recreational uses allows TVA to meet the changing needs of the public. Although the planning horizon for the Melton Hill Plan is ten years, TVA will consider short-term or long-term requests from the public and private sector for use of land allocated for recreation purposes. Under the forecast system, 887.55 acres were allocated for public recreation and 14.78 acres are allocated for commercial recreation. The combined

recreation total, 902.33 acres, represents 35 percent of the total 2,578.28 acres of planable land which could be considered for recreation development. The land proposed for Zone 6, under the proposed allocation scheme, is 216.1 acres and represents only 8.4 percent of the planable land.

On Melton Hill Reservoir, TVA has transferred to public agencies fee ownership of property adjoining five planable parcels (14, 36, 45, 59, and 138) for recreation purposes. The TVA planable land fronting the land transferred to these public agencies may only be used for the recreation purposes defined in the transfer deed. TVA must approve any new development relating to activities other than recreation.

Parcel 21 is capable of meeting a variety of future recreation needs which could include a marina, broader commercial recreation services, or public recreation development. It is one of the few locations on Melton Hill with a protected harbor area capable of supporting year-round mooring capacity, with public road access available. We believe this parcel's location and attributes warrant its allocation for Zone 6 to afford opportunities for recreation development as previously identified.

The zone designations for Parcels 49 and 102 have been changed from Zone 6 to Zone 4. Since the backlying property adjoining Parcel 102 has been transferred to the city of Oak Ridge, any development proposals (i.e., trail improvements) must be carefully evaluated to protect the wetlands and rare plant species.

Zone 4 uses are important. However, we believe they are addressed through the allocation of 620 acres (24 percent) of the planable land. Together Zones 3 and 4 comprise 74 percent of the total planable land on Melton Hill. There are six parcels (16, 79, 84, 91, 115, and 119) licensed and one parcel (154) leased to public agencies for recreation use. TVA will consider requests for long-term landrights from the managing agencies. TVA has sought to maintain a balance in allocating lands for a variety of uses and believes the proposed allocations under Zone 6 are appropriate, based on reservoir characteristics and the anticipated demands of a growing population around the reservoir.

We will explore means available to obtain conservation easements over any portion of the shoreline where vegetation management controls do not currently exist, such as DOE lands. Following the completion of the Melton Hill Land Management Plan, TVA natural resource specialists will be developing a written unit management plan, with an emphasis on public input, that will provide for a long-term management strategy for parcels planned for natural resource conservation and sensitive resource management as designated in the Land Management Plan. TVA's basis for asserting jurisdiction over shoreline property would depend on the specifics of the situation. In certain situations, TVA would assert jurisdiction under Section 26a of the TVA Act. Under Section 26a, any person creating an obstruction along or in the Tennessee River or its tributaries must submit plans for such construction to TVA for approval. In other situations, TVA may assert jurisdiction over shoreline property based on its ownership of such property or by virtue of holding a flowage easement over the property if the flowage easement prohibits the construction of structures. TVA has flowage easement rights over approximately 21 miles of the DOE-owned shoreline.

Tract	Forecast Use	Acres
46R	Reservoir Operations	1.6
47R	Reservoir Operations	4.8
48R	Public Recreation	0.5
49R	Reservoir Operations	2.8
50R	Public Recreation	36.0
51R	Commercial Landing	26.4
52R	Commercial Landing	20.5
53R	Reservoir Operations	1.1
54R	Commercial Landing	13.5
55R	Reservoir Operations	28.5
56R	Public Recreation	3.9
57R	Reservoir Operations	12.1
58R	Commercial Recreation	7.4
59R	Reservoir Operations	29.7
60R	Public Recreation	132.9
61R	Public Recreation	10.7
62R	Reservoir Operations	12.8
63R	Commercial Recreation	1.7
64R	Public Recreation	2.7
65R	Commercial Rec (XTMHR-1L)	5.7
66R	Reservoir Operations	8.7
67R	Power Transmission System	133.9
68R	Reservoir Operations	1.0
69R	Public Recreation	52.7
70R	Reservoir Operations	3.7
71R	Reservoir Operations	3.7
72R	Industrial	0.8
73R	Industrial	3.1
74R	Industrial	2.7
75R	Industrial	2.1
76R	Industrial	8.5
77R	Industrial	162.2
78R	Industrial-Islands	18.1
79R	Industrial-Islands	42.7
80R	Industrial	47.5
81R	Safety Landing	2.1
82R	Public Recreation	1.8
83R	Public Recreation	26.6
84R	Industrial	7.7
85R	Commercial Landing	5.8
86R	Industrial	24.1
87R	Industrial	34.1
88R	Reservoir Operations	54.5

Tract	Forecast Use	Acres
89R	Industrial	11.0
90R	Public Recreation	3.0
91R	Public Recreation	7.6
92R	Reservoir Operations	3.5
93R	Public Recreation	9.2
94R	Public Recreation	6.4
95R	Reservoir Operations	5.1
96R	Public Recreation	1.7
97R	Public Recreation	6.4
98R	Public Recreation	3.8
99R	Reservoir Operations	4.5
100R	Public Recreation	7.7
101R	Reservoir Operations	2.1
102R	Reservoir Operations	1.1
103R	Public Recreation	10.1
104R	Reservoir Operations	7.0
105R	Industrial	13.8
106R	Commercial Landing	5.4
107R	Reservoir Operations	17.3
108R	Reservoir Operations	9.0
109R	Public Recreation	5.4
110R	Commercial Landing	1.2
111R	Commercial Landing	0.5
112R	Reservoir Operations	4.8
113R	Reservoir Operations	6.9
114R	Reservoir Operations	0.1
115R	Reservoir Operations	2.0
116R	Reservoir Operations	2.6
117R	Reservoir Operations	3.9
118R	Reservoir Operations	0.7
119R	Commercial Landing	4.4
120R	Reservoir Operations	0.4
121R	Reservoir Operations	3.3
122R	Reservoir Operations-Islands	15.3
124R	Industrial	117.1
125R	Industrial	174.0
126R	Industrial	34.7
127R	Reservoir Operations	20.9
128R	Reservoir Operations	3.3
129R	Commercial Landing	0.6
130R	Reservoir Operations	2.0
131R	Industrial	6.3
132R	Reservoir Operations-Islands	17.4

Tract	Forecast Use	Acres
133R	Industrial - T	216.5
134R	Reservoir Operations	7.5
135R	Public Recreation	13.4
136R	Reservoir Operations	10.7
137R	Reservoir Operations	0.6
141R	Public Recreation	778.0
142R	Reservoir Operations	0.1
143R	Public Recreation	22.0
145R	Public Recreation	18.5
146R	Reservoir Operations	1.2
XMHR-10	Industrial	26.0
XMHR-1PS	Pumping Station	0.8
XMHR-2H	Highway R/W	2.4
XMHR-37	Industrial/Sold to Bull Run Oil Co.	14.1
XMHR-48CDE	Commercial Landing	5.8
XMHR-7PS	Pumping Station	0.2
XMHR-8H	Highway R/W	0.6
XTMHR-14RE	City of Oak Ridge	***
XTMHR-2	Public Rec. (City of Clinton)	1.6
XTMHR-3	Public Rec. (City of Oak Ridge)	53.0
XTMHR-7	Public Recreation	778.0

Note: Some Tract Numbers may not appear in sequence but accurately reflect the Forecast Map.

*** - Information Not Available

* - For additional forecast uses, see individual parcel descriptions in Volume II.

Clinton

South Clinton

Claxton

Carden Farm Industrial Park

Eagle Bend Industrial Park

Haw Ridge Park

Bull Run Steam Plant

DOE Property

Solway Bridge

Edgemoor Road

Exhibit 1
Melton Hill Reservoir
Forecast Map
Alternative A
Panel 2

Non-TVA Land (Flowage Easement)

Department of Energy (DOE) Property

Forecast

Lake

Parcel Delineations

N

2000 0 2000 4000 Feet

April 1999

Tract	Forecast Use	Acres
46R	Reservoir Operations	1.6
47R	Reservoir Operations	4.8
48R	Public Recreation	0.5
49R	Reservoir Operations	2.8
50R	Public Recreation	36.0
51R	Commercial Landing	26.4
52R	Commercial Landing	20.5
53R	Reservoir Operations	1.1
54R	Commercial Landing	13.5
55R	Reservoir Operations	28.5
56R	Public Recreation	3.9
57R	Reservoir Operations	12.1
58R	Commercial Recreation	7.4
59R	Reservoir Operations	29.7
60R	Public Recreation	132.9
61R	Public Recreation	10.7
62R	Reservoir Operations	12.8
63R	Commercial Recreation	1.7
64R	Public Recreation	2.7
65R	Commercial Rec (XTMHR-1L)	5.7
66R	Reservoir Operations	8.7
67R	Power Transmission System	133.9
68R	Reservoir Operations	1.0
69R	Public Recreation	52.7
70R	Reservoir Operations	3.7
71R	Reservoir Operations	3.7
72R	Industrial	0.8
73R	Industrial	3.1
74R	Industrial	2.7
75R	Industrial	2.1
76R	Industrial	8.5
77R	Industrial	162.2
78R	Industrial-Islands	18.1
79R	Industrial-Islands	42.7
80R	Industrial	47.5
81R	Safety Landing	2.1
82R	Public Recreation	1.8
83R	Public Recreation	26.6
84R	Industrial	7.7
85R	Commercial Landing	5.8
86R	Industrial	24.1
87R	Industrial	34.1
88R	Reservoir Operations	54.5

Tract	Forecast Use	Acres
89R	Industrial	11.0
90R	Public Recreation	3.0
91R	Public Recreation	7.6
92R	Reservoir Operations	3.5
93R	Public Recreation	9.2
94R	Public Recreation	6.4
95R	Reservoir Operations	5.1
96R	Public Recreation	1.7
97R	Public Recreation	6.4
98R	Public Recreation	3.8
99R	Reservoir Operations	4.5
100R	Public Recreation	7.7
101R	Reservoir Operations	2.1
102R	Reservoir Operations	1.1
103R	Public Recreation	10.1
104R	Reservoir Operations	7.0
105R	Industrial	13.8
106R	Commercial Landing	5.4
107R	Reservoir Operations	17.3
108R	Reservoir Operations	9.0
109R	Public Recreation	5.4
110R	Commercial Landing	1.2
111R	Commercial Landing	0.5
112R	Reservoir Operations	4.8
113R	Reservoir Operations	6.9
114R	Reservoir Operations	0.1
115R	Reservoir Operations	2.0
116R	Reservoir Operations	2.6
117R	Reservoir Operations	3.9
118R	Reservoir Operations	0.7
119R	Commercial Landing	4.4
120R	Reservoir Operations	0.4
121R	Reservoir Operations	3.3
122R	Reservoir Operations-Islands	15.3
124R	Industrial	117.1
125R	Industrial	174.0
126R	Industrial	34.7
127R	Reservoir Operations	20.9
128R	Reservoir Operations	3.3
129R	Commercial Landing	0.6
130R	Reservoir Operations	2.0
131R	Industrial	6.3
132R	Reservoir Operations-Islands	17.4

Tract	Forecast Use	Acres
133R	Industrial - T	216.5
134R	Reservoir Operations	7.5
135R	Public Recreation	13.4
136R	Reservoir Operations	10.7
137R	Reservoir Operations	0.6
141R	Public Recreation	778.0
142R	Reservoir Operations	0.1
143R	Public Recreation	22.0
145R	Public Recreation	18.5
146R	Reservoir Operations	1.2
XMHR-10	Industrial	26.0
XMHR-1PS	Pumping Station	0.8
XMHR-2H	Highway R/W	2.4
XMHR-37	Industrial/Sold to Bull Run Oil Co.	14.1
XMHR-48CDE	Commercial Landing	5.8
XMHR-7PS	Pumping Station	0.2
XMHR-8H	Highway R/W	0.6
XTMHR-14RE	City of Oak Ridge	***
XTMHR-2	Public Rec. (City of Clinton)	1.6
XTMHR-3	Public Rec. (City of Oak Ridge)	53.0
XTMHR-7	Public Recreation	778.0

Note: Some Tract Numbers may not appear in sequence but accurately reflect the Forecast Map.

*** - Information Not Available

* - For additional forecast uses, see individual parcel descriptions in Volume II.

Exhibit 1
Melton Hill Reservoir
Forecast Map
Alternative A
Panel 2

Non-TVA Land (Flowage Easement)
Department of Energy (DOE) Property
Forecast
Lake
Parcel Delineations

2000 0 2000 4000 Feet

N

April 1999

Tract	Forecast Use	Acres
1R	Dam Reservation	79.2
2R	Dam Reservation	246.8
3R	Reservoir Operations	15.9
4R	Public Recreation	0.7
5R	Reservoir Operations	20.4
6R	Safety Landing	4.4
7R	Reservoir Operations	2.0
8R	Public Recreation	252.3
9R	Public Recreation	14.1
10R	Reservoir Operations	4.2
11R	Public Recreation	2.2
12R	Reservoir Operations	18.9
13R	Reservoir Operations	7.4
14R	Public Recreation	52.2
15R	Commercial Landing	14.5
16R	Reservoir Operations	4.2
17R	Public Recreation	15.4
18R	Reservoir Operations	11.4
19R	Safety Landing	2.0
20R	Reservoir Operations	4.6
21R	Reservoir Operations	0.9
22R	Commercial Landing	11.9
23R	Reservoir Operations	12.0
24R	Public Recreation	4.0
25R	Reservoir Operations	3.7
26R	Reservoir Operations	6.9
27R	Reservoir Operations-Islands	1.3
28R	Reservoir Operations	10.9
29R	Public Recreation	52.6
30R	Reservoir Operations	6.1
31R	Public Recreation	50.6
32R	Safety Landing	25.3
33R	Reservoir Operations	3.4
34R	Public Recreation	2.5
35R	Reservoir Operations	12.5
36R	Reservoir Operations-Islands	8.6
37R	Public Recreation	5.6
38R	Reservoir Operations	3.6
39R	Public Recreation, Safety Landing	4.2
40R	Reservoir Operations	12.0
41R	Public Recreation	0.6
42R	Reservoir Operations	3.3
43R	Public Recreation	1.2
44R	Reservoir Operations	0.4
45R	Public Recreation	2.9
138R	Reservoir Ops.-Islands	***
XTMHR-4	Public Recreation (Knox Co.)	8.2
XTMHR-5	Public Recreation (Knox Co.)	117.7
XTMHR-6	Public Recreation (Knox Co.)	16.0

Note: Some Tract Numbers may not appear in sequence but accurately reflect the Forecast Map.

*** - Information Not Available

* - For additional forecast uses, see individual parcel descriptions in Volume II.

Solway Bridge

DOE Property

Oak Ridge

Melton Hill Park

Guinn Road Park

Hickory Creek Park

Melton Hill Dam Reservation

Exhibit 1
Melton Hill Reservoir
Forecast Map
Alternative A
Panel 1

Non-TVA Land (Flowage Easement)

Department of Energy (DOE) Property

Forecast

Lake

Parcel Delineations

N

2000 0 2000 4000 Feet

April 1999

Tract	Forecast Use	Acres
46R	Reservoir Operations	1.6
47R	Reservoir Operations	4.8
48R	Public Recreation	0.5
49R	Reservoir Operations	2.8
50R	Public Recreation	36.0
51R	Commercial Landing	26.4
52R	Commercial Landing	20.5
53R	Reservoir Operations	1.1
54R	Commercial Landing	13.5
55R	Reservoir Operations	28.5
56R	Public Recreation	3.9
57R	Reservoir Operations	12.1
58R	Commercial Recreation	7.4
59R	Reservoir Operations	29.7
60R	Public Recreation	132.9
61R	Public Recreation	10.7
62R	Reservoir Operations	12.8
63R	Commercial Recreation	1.7
64R	Public Recreation	2.7
65R	Commercial Rec (XTMHR-1L)	5.7
66R	Reservoir Operations	8.7
67R	Power Transmission System	133.9
68R	Reservoir Operations	1.0
69R	Public Recreation	52.7
70R	Reservoir Operations	3.7
71R	Reservoir Operations	3.7
72R	Industrial	0.8
73R	Industrial	3.1
74R	Industrial	2.7
75R	Industrial	2.1
76R	Industrial	8.5
77R	Industrial	162.2
78R	Industrial-Islands	18.1
79R	Industrial-Islands	42.7
80R	Industrial	47.5
81R	Safety Landing	2.1
82R	Public Recreation	1.8
83R	Public Recreation	26.6
84R	Industrial	7.7
85R	Commercial Landing	5.8
86R	Industrial	24.1
87R	Industrial	34.1
88R	Reservoir Operations	54.5

Tract	Forecast Use	Acres
89R	Industrial	11.0
90R	Public Recreation	3.0
91R	Public Recreation	7.6
92R	Reservoir Operations	3.5
93R	Public Recreation	9.2
94R	Public Recreation	6.4
95R	Reservoir Operations	5.1
96R	Public Recreation	1.7
97R	Public Recreation	6.4
98R	Public Recreation	3.8
99R	Reservoir Operations	4.5
100R	Public Recreation	7.7
101R	Reservoir Operations	2.1
102R	Reservoir Operations	1.1
103R	Public Recreation	10.1
104R	Reservoir Operations	7.0
105R	Industrial	13.8
106R	Commercial Landing	5.4
107R	Reservoir Operations	17.3
108R	Reservoir Operations	9.0
109R	Public Recreation	5.4
110R	Commercial Landing	1.2
111R	Commercial Landing	0.5
112R	Reservoir Operations	4.8
113R	Reservoir Operations	6.9
114R	Reservoir Operations	0.1
115R	Reservoir Operations	2.0
116R	Reservoir Operations	2.6
117R	Reservoir Operations	3.9
118R	Reservoir Operations	0.7
119R	Commercial Landing	4.4
120R	Reservoir Operations	0.4
121R	Reservoir Operations	3.3
122R	Reservoir Operations-Islands	15.3
124R	Industrial	117.1
125R	Industrial	174.0
126R	Industrial	34.7
127R	Reservoir Operations	20.9
128R	Reservoir Operations	3.3
129R	Commercial Landing	0.6
130R	Reservoir Operations	2.0
131R	Industrial	6.3
132R	Reservoir Operations-Islands	17.4

Tract	Forecast Use	Acres
133R	Industrial - T	216.5
134R	Reservoir Operations	7.5
135R	Public Recreation	13.4
136R	Reservoir Operations	10.7
137R	Reservoir Operations	0.6
141R	Public Recreation	778.0
142R	Reservoir Operations	0.1
143R	Public Recreation	22.0
145R	Public Recreation	18.5
146R	Reservoir Operations	1.2
XMHR-10	Industrial	26.0
XMHR-1PS	Pumping Station	0.8
XMHR-2H	Highway R/W	2.4
XMHR-37	Industrial/Sold to Bull Run Oil Co.	14.1
XMHR-48CDE	Commercial Landing	5.8
XMHR-7PS	Pumping Station	0.2
XMHR-8H	Highway R/W	0.6
XTMHR-14RE	City of Oak Ridge	***
XTMHR-2	Public Rec. (City of Clinton)	1.6
XTMHR-3	Public Rec. (City of Oak Ridge)	53.0
XTMHR-7	Public Recreation	778.0

Note: Some Tract Numbers may not appear in sequence but accurately reflect the Forecast Map.

*** - Information Not Available

* - For additional forecast uses, see individual parcel descriptions in Volume II.

Exhibit 1
Melton Hill Reservoir
Forecast Map
Alternative A
Panel 2

Non-TVA Land (Flowage Easement)
Department of Energy (DOE) Property
Forecast
Lake
Parcel Delineations

2000 0 2000 4000 Feet

N

April 1999

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

MELTON HILL RESERVOIR LAND USE PLAN
ANDERSON, KNOX, LOUDON, AND ROANE COUNTIES, TENNESSEE

Background

TVA develops reservoir land management plans to assist in managing the public lands around its lakes. TVA currently owns 1044 ha (2578 acres) of land above normal pool on Melton Hill Reservoir. The proposed land allocation plan for Melton Hill Reservoir updates a 1966 land use forecast. In addition, it allocates residential access shoreland into categories depending on the presence of sensitive environmental resources which TVA must protect. TVA notified the public and environmental agencies of its land planning effort for Melton Hill Reservoir in 1997. A draft Environmental Assessment (EA) was released for comment in November 1998. Comments were received by mail and at a public meeting held on November 30, 1998 in Oak Ridge, Tennessee. After considering all comments, TVA developed a Final Environmental Assessment and Land Use Plan. The allocation of two small parcels were changed from Recreation to Natural Resource Conservation as a result of these comments. This FONSI completes TVA's environmental review.

Alternatives

The EA evaluates the potential environmental impacts of continuing to base its land use decisions on the 1966 forecast (No Action Alternative, or Alternative A) or issuing a new Melton Hill Reservoir Land Use Plan for 159 parcels of TVA land totaling 1044 ha (Alternative B). The EA and accompanying Land Use Plan are attached and incorporated by reference. Under Alternative A, the forecast designations would remain in place. These designations for lands on Melton Hill Reservoir, with areas updated with more sophisticated computerized equipment, are as follows: Public Recreation (359.3 ha or 887.5 acres), Industrial (250.3 ha or 618.2 acres), Reservoir Operations (186.6 ha or 460.9 acres), Dam Reservation (100.8 ha or 249.0 acres), Navigation Safety Harbors/Landings (62.3 ha or 154.0 acres), Power Transmission System (55.1 ha or 136.2 acres), and Commercial Recreation (6.0 ha or 14.8 acres). In addition, 22.9 ha of land without current forecast designations would remain unallocated and 0.4 ha would be designated as a Pump Station (0.4 ha).

Under Alternative 2, the 1044 ha would be allocated into six planning zones, as follows: TVA Project Operations (119.2 ha or 294.4 acres), Sensitive Resource Management (516.4 ha or 1275.6 acres), Natural Resource Conservation (244.0 ha or 619.7 acres),

Industrial/Commercial Development (8.8 ha or 21.8 acres), Recreation (87.5 ha or 216.1 acres), and Residential Access (61.0 ha or 150.7 acres). In addition to providing more up-to-date allocations, Alternative B includes a Sensitive Resources Management zone. Lands containing rare species, archaeological resources, significant visual resources, and wetlands were allocated to this zone. Alternative B grandfathers previous land use commitments and allocates uncommitted TVA land to zones that allow for development while emphasizing resource stewardship. Neither alternative allocates additional shoreland for Residential Access (Zone 7). Residential Access would be considered only fronting land where shoreline alterations have already been approved or areas where outstanding rights exist for such requests.

TVA is not allocating private or other non-TVA land under the land management plan. Under the preferred alternative in the Shoreline Management Initiative (SMI) Environmental Impact Statement (EIS), TVA will perform a shoreline categorization of the residential shoreline. The shoreline categorization is composed of three categories: Managed Residential Shoreline, Residential Shoreline Mitigation, and Shoreline Protection. For Melton Hill Reservoir, the residential access shoreline comprises 38.7 km (23.2 miles) or 12.4 percent of the total shoreline distance (311.9 km or 193.4 miles). Approximately 68.9 percent of this residential shoreline is in the Residential Shoreline Mitigation category, 25.8 percent is in the Managed Residential category, and 5.3 percent is in the Shoreline Protection category. Private water use facilities would not be allowed in the Shoreline Protection category. Within the Shoreline Mitigation category, site specific impacts of the proposed residential access facilities would be assessed and impacts to sensitive resources would be avoided or mitigated, if potential impacts are likely. Shoreline in the Managed Residential category does not have any known sensitive resources and residential permitting would be according to applicable TVA standards. The Department of Energy flowage easement shoreland is not considered to be residential access shoreland.

Impacts Assessment

Under either Alternative, the EA finds that impacts to environmental resources would be insignificant. Under Alternative A, the individual project review process would avoid or minimize impacts to sensitive environmental resources. By contrast, Alternative B provides enhanced protection to sensitive resources (such as cultural sites, wetlands, and rare species) by allocating certain lands (almost 50 percent) to the Sensitive Resource Management category, thereby reducing the potential that these sensitive lands would be put to incompatible uses. Individual parcel descriptions in the Land Management Plan indicate specific commitments to protect sensitive environmental resources.

The EA identifies Alternative B as the preferred alternative since it emphasizes conservation while continuing to allow compatible public uses on certain tracts.

Conclusion and Finding

After review of the EA, we agree that the proposed allocation of 159 tracts of Melton Hill Reservoir land into six planning zones would not have a significant impact on the quality of the environment. Accordingly, an environmental impact statement is not required.

Jon M. Loney
Manager
Environmental Management
Tennessee Valley Authority

April 20, 1999
Date

COMMITMENTS
MELTON HILL RESERVOIR LAND MANAGEMENT PLAN

1. Cultural resources review. Any proposed activities on the following parcels would be reviewed pursuant to Section 106 of the National Historic Preservation Act and other applicable laws and regulations to prevent adverse effects on cultural resources: Parcels 1, 3, 45, 58, 59, 66, 110, 119, 127, 140, 141, 152, and 154.
2. Rare plants. Any approval of private water use facilities or other activities on the following parcels would be conditioned to avoid adverse impacts to rare plants: Parcels 2, 3, 25, 31, 91, and 102.
3. Navigation. Any approval of private water use facilities or other activities on the following parcels would be conditioned to avoid adverse impacts to navigation: Parcels 2, 20, 21, 23, 36, 39, 49, 50, 127, and 137.
4. Wetlands. Any approval of private water use facilities or other activities on the following parcels would be conditioned to avoid adverse impacts to wetlands: Parcels 14, 16, 21, 25, 29, 31, 36, 39, 41, 45, 47, 50, 53, 58, 59, 63, 73, 80, 82, 84, 91, 102, 107, 112, 115, 127, and 137.
5. Bird Nesting Areas. Buffer zones will be established around nesting osprey, caves, and heronries to protect these areas from encroachment due to commercial or residential development. Any construction of private water use facilities or other activities on the following parcel must be conducted between September and March to avoid impacts to nesting osprey: Parcel 29.
6. Contamination. Any construction involving ground disturbance is prohibited on the following parcels: 53, 98, 99, 109, 110
7. TVA will pursue removal of an unauthorized structures and other activities on parcels 29, 30, 34, 52, 75, and 130.
8. Requests for residential shoreline alterations on Department of Energy shoreline (flowage easement) under Section 26a of the TVA Act will not be considered unless a proposal to mitigate the loss of public shoreline, preferably resulting in a gain of public shoreline, is submitted and approved by TVA.

Metric Conversion

U.S. Unit	Metric Equivalent
acre	0.405 hectares, 4,047 sq.meters
foot	30.48 centimeters
inch	2.54 centimeters
mile	1.609 kilometers
ton	0.907 metric tons
yard	0.9144 meters
square foot	0.093 square meters
cubic yard	0.765 cubic meters
centimeter	0.39 inches
hectare	2.47 acres
kilometer	0.62 miles
meter	39.37 inches
metric ton	1.102 tons
square meter	1.196 square yards
cubic meter	1.30 cubic yards