

## CHAPTER 2

### 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

#### 2.1 The Allocation Process

As part of the process of developing alternatives for the MRLMP, TVA reviewed existing and newly collected field data, both on conditions and resources on the lands being planned. Each parcel of land was reviewed to determine its physical capability for supporting potential suitable uses (see Appendix F, Suitability/Capability Analyses). Based on this information, the TVA planning team “preallocated” land parcels to one of the seven allocation zones used in recent TVA reservoir land plans and described in Table 2-1. The results of preallocation were presented to the public for comment during the scoping period.

**Table 2-1. Land Use Zone Definitions**

Zone		Definition
1	Non-TVA Shoreland	<p>Shoreland that TVA does not own in fee or land never purchased by TVA. Non-TVA Shoreland allocations are based on deeded rights and, therefore, will not change as a result of the land planning process. This category is provided to assist in comprehensive evaluation of potential environmental impacts of TVA's allocation decision. Non-TVA shoreland includes:</p> <ul style="list-style-type: none"> <li>• <b>Flowage easement land</b>—Privately or publicly owned land where TVA has purchased the right to flood and/or limit structures. Flowage easement rights are generally purchased to a contour elevation. Since construction on flowage easement land is subject to TVA's Section 26a permitting requirements, the SMP guidelines discussed in the definition of Zone 7 would apply to the construction of residential water use facilities fronting flowage easement land. SMP guidelines addressing land-based structures and vegetation management do not apply.</li> <li>• <b>Privately owned reservoir land</b>—This was land never purchased by TVA and may include, but is not limited to, residential, industrial, commercial, or agricultural land. This land, lying below the 500-year flood elevation, is subject to TVA's Section 26a approvals for structures.</li> </ul>
2	Project Operations	<p>All TVA reservoir land currently used for TVA operations and public works projects includes:</p> <ul style="list-style-type: none"> <li>• <b>Land adjacent to established navigation operations</b>—Locks, lock operations and maintenance facilities, and the navigation work boat dock and bases.</li> <li>• <b>Land used for TVA power projects operations</b>—Generation facilities, switchyards, and transmission facilities and rights-of-way.</li> <li>• <b>Dam reservation land</b>—Areas acquired and managed for the primary purpose of supporting the operation and maintenance of TVA dams and associated infrastructure; secondary uses may also include developed and dispersed recreation, maintenance facilities, watershed team offices, research areas, and visitor centers.</li> <li>• <b>Navigation safety harbors/landings</b>—Areas used for tying off commercial barge tows and recreational boats during adverse weather conditions or equipment malfunctions.</li> </ul>

Zone		Definition
		<ul style="list-style-type: none"> <li>• <b>Navigation dayboards and beacons</b>—Areas with structures placed on the shoreline to facilitate navigation.</li> <li>• <b>Public works projects</b>—Includes public utility infrastructure, such as substations and major rights-of-way for sewer lines, water lines, transmission lines, and major highway rights-of-way.</li> <li>• <b>Land planned for any of the above uses in the future.</b></li> </ul>
3	Sensitive Resource Management	<p>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. Recreational natural resource activities, such as hunting, wildlife observation, and camping on undeveloped sites, may occur in this zone, but the overriding focus is protecting and enhancing the sensitive resource the site supports. Areas included are:</p> <ul style="list-style-type: none"> <li>• TVA-designated sites with potentially <b>significant archaeological resources</b>.</li> <li>• TVA public land with <b>sites/structures listed on or eligible for listing on the National Register of Historic Places</b>.</li> <li>• <b>Wetlands</b>—Aquatic bed, emergent, forested, and scrub-shrub wetlands as defined by TVA.</li> <li>• <b>TVA public land under easement, lease, or license to other agencies/individuals</b> for resource protection purposes.</li> <li>• <b>TVA public land fronting land owned by other agencies/individuals</b> for resource protection purposes.</li> <li>• <b>Habitat Protection Areas</b>—These TVA Natural Areas are managed to protect populations of species identified as threatened or endangered by the U.S. Fish and Wildlife Service, state-listed species, and any unusual or exemplary biological communities/geological features.</li> <li>• <b>Ecological Study Areas</b>—These TVA Natural Areas are designated as suitable for ecological research and environmental education by a recognized authority or agency. They typically contain plant or animal populations of scientific interest or are of interest to an educational institution that would utilize the area.</li> <li>• <b>Small Wild Areas</b>—These TVA Natural Areas are 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.</li> <li>• <b>River Corridor with sensitive resources</b>—A River Corridor is a segment of a river and the adjacent land along the banks. River Corridors often consist of a linear green space of TVA land serving as a buffer to tributary rivers entering a reservoir. These areas will be included in Zone 3 when identified sensitive resources are present.</li> <li>• <b>Significant scenic areas</b>—Areas designated for visual protection because of their unique vistas or particularly scenic qualities.</li> <li>• <b>Champion tree site</b>—Areas designated by TVA as sites that contain the largest known individual tree of its species in that state. The state forestry agency “Champion Tree Program” designates the tree, while TVA designates the area of the sites for those located on TVA public land.</li> </ul>

Zone	Definition
	<ul style="list-style-type: none"> <li>• <b>Other sensitive ecological areas</b>—Examples of these areas include heron rookeries, uncommon plant and animal communities, and unique cave or karst formations.</li> <li>• <b>Land planned for any of the above uses in the future.</b></li> </ul>
4	<p><b>Natural Resource Conservation</b></p> <p>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 management to promote forest health, wildlife observation, and camping on undeveloped sites. Areas included are:</p> <ul style="list-style-type: none"> <li>• <b>TVA public land under easement, lease, or license</b> to other agencies for wildlife or forest management purposes.</li> <li>• <b>TVA public land fronting land owned by other agencies</b> for wildlife or forest management purposes.</li> <li>• <b>TVA public land</b> managed for wildlife or forest management projects.</li> <li>• <b>Dispersed recreation areas</b> maintained for passive, dispersed recreation activities, such as hunting, hiking, bird watching, photography, primitive camping, bank fishing, and picnicking.</li> <li>• <b>Shoreline Conservation Areas</b>—Narrow riparian strips of vegetation between the water's edge and TVA's back-lying property that are managed for wildlife, water quality, or visual qualities.</li> <li>• <b>Wildlife Observation Areas</b>—TVA Natural Areas with unique concentrations of easily observed wildlife that are managed as public wildlife observation areas.</li> <li>• <b>River Corridor without sensitive resources</b>—A River Corridor a segment of a river and the adjacent land along the banks. River Corridors often consist of a linear green space of TVA land serving as a buffer to tributary rivers entering a reservoir. River Corridors will be included in Zone 4 unless sensitive resources are present (see Zone 3).</li> <li>• <b>Islands of 10 acres or less.</b></li> <li>• <b>Land planned for any of the above uses in the future.</b></li> </ul>
5	<p><b>Industrial</b></p> <p>Land managed for economic development, including businesses in distribution/processing/assembly and light manufacturing. Preference will be given for businesses requiring water access. There are two primary types of uses for TVA land allocated for Industrial: <b>(1) Access for water supply or structures associated with navigation such as barge terminal, mooring cell, etc., or (2) Land-based development potential.</b></p> <p>Industrial areas included are:</p> <ul style="list-style-type: none"> <li>• <b>TVA public land under easement, lease, or license to other agencies/ individuals</b> for purposes described above.</li> <li>• <b>TVA public land fronting land owned by other agencies/individuals</b> for industrial purposes described above.</li> <li>• <b>In some cases, TVA land allocated to industrial use would be declared surplus and sold at public auction.</b></li> </ul> <p>Types of development that can occur on this land are:</p> <ul style="list-style-type: none"> <li>• <b>Light Industrial</b>—TVA waterfront land that would support businesses and light manufacturing activities. Industrial parks should not include retail, service-based businesses like assisted living, retirement centers, or walk-in-type businesses (excluding retail use).</li> </ul>

Zone		Definition
		<ul style="list-style-type: none"> <li>• <b>Industrial Access</b>—Access to the waterfront by back-lying 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.</li> <li>• <b>Barge Terminal Sites</b>—Public or private facilities used for the transfer, loading, and unloading of commodities between barges and trucks, trains, storage areas, or industrial plants.</li> <li>• <b>Fleeting Areas</b>—Sites used by the towing industry to switch barges between tows or barge terminals that have both offshore and onshore facilities.</li> <li>• <b>Minor Commercial Landing</b>—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.</li> </ul>
6	Developed Recreation	<p>The designations below are based on levels of development and the facilities available to the public. Parcel descriptions should describe the primary type of use and identify access potential for infrastructure and potential for development:</p> <p><b>Water Access</b>—Small parcels of land, generally less than 10 acres, and typically shoreline areas conveyed to public agencies for public access.</p> <p><b>Public</b>—More recreational opportunities, some facilities, more than a parking lot and boat ramp. This includes areas conveyed for public recreation.</p> <p><b>Commercial</b>—Property suitable and capable to support commercial water-based operations. This includes areas conveyed for commercial recreation.</p> <p>Areas included are all reservoir land managed for concentrated, active recreational activities that require capital improvement and maintenance, including:</p> <ul style="list-style-type: none"> <li>• <b>TVA public land under easement, lease, or license to other agencies/individuals</b> for recreational purposes.</li> <li>• <b>TVA public land fronting land owned by other agencies/individuals</b> for recreational purposes.</li> <li>• <b>TVA public land</b> developed for recreational purposes, such as campgrounds, day use areas, etc.</li> <li>• <b>Land planned for any of the above uses in the future.</b></li> </ul> <p>Types of development that can occur on this land are:</p> <ul style="list-style-type: none"> <li>• <b>Water access</b>—Areas that tend to have limited development and can include a launching ramp, courtesy piers, canoe access, parking areas, picnic areas, trails, etc.</li> <li>• <b>Public Recreation</b>—Recreation on publicly owned land with facilities developed by a public agency and that provides amenities open to the general public. Facilities at “public recreation” (municipalities/communities) areas typically have included playgrounds/play structures, picnic facilities, tennis courts, horseshoe areas, play courts, recreation centers, athletic fields, trails, natural areas, amphitheaters, food concessions (vending, snack bar), access to water for fishing and boating, swimming areas and swimming pools, marina facilities owned by the public entity, parking, and overnight (developed) camping.</li> </ul>

Zone		Definition
		<ul style="list-style-type: none"> <li>Public recreation, time-forward, will not include residential use, cabins, or other overnight accommodations (other than campgrounds), except if a recreation area is owned by a state or state agency and operated as a component of a state park system, in which case cabins and other overnight accommodations will be permitted.</li> <li>Public recreation uses typically include areas and facilities owned and operated by the federal, state, county, or local government (municipalities/communities). The use of the facilities may be offered free or for a fee. This does not allow for public-private partnership where facilities are owned by private investors. All structures and facilities should be owned by the agreement holder.</li> <li><b>Commercial Recreation</b>—Defined as recreation amenities that are provided to the public for a fee intending to produce a profit for the owner/operator. These primarily water-based facilities typically include marinas and affiliated support facilities like restaurants and lodges; campgrounds; cabins; military vessel attractions; or excursion tour vessels. These uses and activities remain permissible under TVA’s Land Policy and can be accommodated through changes in existing conveyance agreements. These areas do not include residential use, long-term accommodations, or individually owned units. Where applicable, TVA will request a percent of gross revenues.</li> <li><b>Greenways</b>—Linear parks or developed trails located along natural features, such as lakes or ridges, or along man-made features, including abandoned railways or utility rights-of-way, which link people and resources together.</li> </ul>
7	Shoreline Access	<p>TVA-owned land 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. Types of development/management that may be permitted on this land are:</p> <ul style="list-style-type: none"> <li><b>Residential water use facilities</b>—Docks, piers, launching ramps/driveways, marine railways, boathouses, enclosed storage space, and nonpotable water intakes.</li> <li><b>Shoreline access corridors</b>—Pathways, wooden steps, walkways, or mulched paths that can include portable picnic tables and utility lines.</li> <li><b>Shoreline stabilization</b>—Bioengineering, riprap and gabions, and retaining walls.</li> <li><b>Shoreline vegetation management.</b></li> </ul>

**Committed Land**

It is anticipated 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. Committed lands include the following: properties where TVA has granted landrights (easements, leases, etc.) for specific uses, properties where TVA has previously identified resources in need of protection, TVA Project Operations lands (transmission lines, dam reservations, etc.), and lands fronting national forest properties.

Possible reasons to change a land use would be ongoing adverse impacts resulting from the actions of a license or easement holder. No committed lands are proposed for change on any of the nine mountain reservoirs. Some committed land uses are determined by the covenants and provisions of easements, leases, licenses, and sale and transfer agreements. Other committed uses are determined by TVA to be critical to the operation of the integrated reservoir system, such as power transmission lines and dam reservations. Approximately 3,024 acres (49 percent) of the TVA land surrounding the mountain reservoirs are committed due to existing TVA or other public infrastructure projects. Approximately 5,146 acres (83 percent) of the TVA lands surrounding the mountain reservoirs are committed. Agricultural licenses are interim and not considered to be committed uses because they are an interim use of TVA land. Table 2-2 summarizes the committed and uncommitted lands on the nine mountain reservoirs.

**Table 2-2. Committed Parcels on the Mountain Reservoirs**

Reservoir	Committed		Uncommitted	
	Parcels	Acres	Parcels	Acres
Chatuge	81	1,047.6	28	718.9
Hiwassee	58	784.3	14	223.1
Blue Ridge	38	456.6	4	12.9
Nottely	39	707.7	3	120.9
Ocoee 1	29	77.4	0	0
Ocoee 2	4	79.6	0	0
Ocoee 3	6	218.3	0	0
Apalachia	7	843.3	0	0
Fontana	46	931	0	0
<b>Total</b>	<b>308</b>	<b>5,145.8</b>	<b>49</b>	<b>1,075.8</b>

If sensitive resources were identified on a committed parcel, that parcel would remain zoned for the committed use unless an ongoing adverse impact was found. However, TVA approval would be required prior to future activities that could impact the identified sensitive resources.

Since originally acquiring the mountain reservoirs lands, TVA sold over 3,000 acres but retained an adjacent strip of land lying below the maximum shoreline contour (MSC). The MSC is defined as the contour, usually 5 feet above the ordinary shoreline, which marks the landward limit of permanent flood rights. The majority of these sales occurred in the mid- to late 1950s. The bulk of this public land, which TVA retained below the MSC, has deeded rights of ingress and egress for water access from the back-lying property. Based on TVA SMP, these back-lying property owners with access rights may apply to TVA to construct private water use facilities on the TVA-owned shoreline land.

TVA also transferred thousands of acres of land to other federal and state agencies, primarily the USFS. TVA typically retained the fee interest of the land below the MSC elevation of the specific reservoir. However, the transfer agreements allowed for management of the TVA-retained land below the transfer contour by these agencies consistent with the objectives exercised on the back-lying public land. The TVA-retained land fronting transferred land is not represented in the acreage totals for Fontana, Hiwassee, Apalachia, and the Ocoees reservoirs. The width of this strip of TVA-retained

land located between June 1 Flood guide and the transfer tracts varies from reservoir to reservoir. While the width of this strip may vary, the total acreage for a reservoir may be substantial due to the total length of the shoreline. For example, the acreage of the TVA-retained land located below the transfer elevation on Nottely Reservoir (1,785-foot contour) and above the June 1 Flood Guide (1,777-foot contour) is over 150 acres. Although TVA does not have exact acreages for some of the reservoirs, planning objectives are not impacted because these lands are committed to the back-lying land use via the transfer agreement covenants and provisions. The committed use is either Zone 4 (Natural Resource Conservation) or Zone 6 (Developed Recreation) and is primarily dependent on the level of recreation use, i.e., developed or informal/dispersed.

### **Uncommitted Land**

The balance of TVA land on the mountain reservoirs (1,076 acres or 17 percent) is not committed to a specific use. Technical specialists collected field data on many uncommitted parcels to identify areas containing sensitive resources. Representatives from different TVA organizations including power generation, land and water stewardship, recreation, and industrial development met to allocate the parcels of TVA public land into the seven planning zones. Using maps that identified the location of known and potential sensitive resources (cultural resources, wetlands, and threatened and endangered species), the capability and suitability for potential uses of each parcel were considered.

### **Property Administration**

The proposed MRLMP takes into consideration TVA policy, guidelines, and environmental laws and regulations in developing a strategy to manage resources by identifying suitable uses for each tract of land. As administrators of TVA land, the watershed team uses the MRLMP along with TVA policies and guidelines to manage resources and to respond to requests for the use of TVA land. All inquiries about, or requests for, the use of TVA land on the mountain reservoirs should be made to TVA's Chickamauga/Hiwassee or Little Tennessee Watershed teams.

TVA will consider changing a land use designation outside of the normal planning process only for water-access purposes for industrial or commercial recreation operations on privately owned back-lying land or to implement TVA's SMP.

TVA will not require a Zone 7 allocation change to consider review and approval of private residential water-use facilities on Zones 5 and 6 parcels when the change in use is consistent with the deeded landrights.

Access corridors for public works/utility projects proposed on any TVA land that do not affect the zoned land use or sensitive resources would not require an allocation change so long as such uses would be compatible with the use of the allocated zone. (An access corridor is a linear pathway extending between TVA and the adjacent landowner to the water. It is located in a way that minimizes removal of trees or other vegetation and potential for erosion. The corridor should be stabilized and revegetated with native species.) Any other requests involving a departure from the planned uses would require the approval of the TVA Board of Directors.

Proposals consistent with TVA's Land Policy, the allocated use, and otherwise acceptable to TVA will be reviewed in accordance with the National Environmental Policy Act (NEPA) and conform to the requirements of other applicable environmental regulations and other legal authorities.

## 2.2 Alternatives

TVA has identified three alternatives for analysis and comparison in this EIS:

- The No Action/Forecast System Alternative (Alternative A), under which TVA would continue to use the Forecast System to manage 4,592 acres of its mountain reservoirs lands and would not change the current uses of its other mountain reservoirs lands
- The Proposed Land Use Plan Alternative (Alternative B), under which TVA would allocate its lands to one of the seven zones described in Table 2-1 to facilitate their management and to be consistent with existing uses of the reservoir lands
- The Proposed Modified Land Use Plan Alternative (Alternative C), which differs from Alternative B by allocating a few parcels to more development-oriented uses in response to requests received during the public scoping process

Under any alternative:

- TVA would continue to conduct environmental reviews prior to the approval of any proposed development or activity on public land to address site-specific issues.
- Future activities and land uses will be guided by TVA Land Policy.
- TVA land use allocations are not intended to supersede deeded landrights or land ownership (see Section 2.1, the Allocation Process, for more information)

### 2.2.1 *Alternative A – The No Action/Forecast System Alternative*

Eight of the nine mountain reservoirs involved in this current land planning effort were previously planned utilizing a Forecast System developed in 1965. Fontana Reservoir has never been forecast or planned. Before 1979, when TVA began the comprehensive planning of its reservoir lands in a public forum, the Forecast System was used to guide land use decisions on most TVA reservoir lands. The Forecast System was an in-house process that documented actual and prospective uses for all TVA public land around a reservoir using a somewhat variable set of Forecast System designations (see Appendix D). The Forecast System allocated land into 13 categories. Of these 13 categories, the following six were used to classify TVA land surrounding eight of the nine mountain reservoirs previously forecast: Dam Reservations, Public Recreation, Reservoir Operations (Islands), Reservoir Operations (Mainland), Power Transmission and Power Needs, and Industrial. TVA presently manages approximately 4,612 acres on the mountain reservoirs utilizing the Forecast System; these lands, as well as an additional 1,610 acres, are being planned in the current planning process.

Under Alternative A, the No Action/Forecast System Alternative, TVA would continue to use the Forecast System designations established by TVA in 1965 to manage the 4,612 acres (approximately 74 percent) that were previously forecast in the 1970s out of the total of approximately 6,222 acres on the nine mountain reservoirs. TVA has revised these designations to reflect changes in land use that have occurred over the past 40+ years. For example, if a parcel was forecast for Industrial and TVA later provided an easement for a major highway right-of-way, the easement area would be segregated from the original parcel and allocated to Project Operations. Under Alternative A, the approximately 1,609 acres of TVA mountain reservoirs lands unplanned under the Forecast System, including all



TVA-owned Fontana Reservoir lands, would continue to be managed according to existing land use agreements and TVA's SMP and Land Policy. However, the unplanned parcels are not allocated to a current land use zone (see Table 2-1); therefore, complete alignment with current TVA policies and guidelines would not occur.

To facilitate the comparison of alternatives in this EIS, the Forecast System designations for all parcels previously planned have been converted to the equivalent current land use zone designations. For example, a parcel with a Forecast System designation of Dam Reservation would be converted to Project Operations, a Zone 2 allocation. In situations where a Forecast System designation could be converted to more than one zone allocation, existing land use determined which zone allocation was selected. In some cases, a parcel with multiple land uses was split in order to allocate the varying uses to the compatible zone. Additionally, some adjacent parcels with similar land uses were combined and allocated to the compatible zone. The conversions are identified for individual parcels on each reservoir in Appendix E, and the converted designations are used in many of the discussions below.

Under Alternative A, only five of the currently used seven land use zone designations are utilized for the 4,613 acres previously planned: Project Operations, Natural Resource Conservation, Industrial, Recreation, and Shoreline Access (see Table 2-3). Under Alternative A, no TVA parcels were planned for Sensitive Resource Management because the Forecast System did not have an equivalent designation for that zone. Only 2 acres were allocated to Shoreline Access. The vast majority of land currently committed to shoreline access was not planned in the Forecast System. Zone 1 (Non-TVA Shoreland) is not represented in the following tables because the parcels are private land (in which TVA owns certain rights) and will not change as a result of the land planning process.

**Table 2-3. Alternative A – Area by Equivalent Current Land Use Designations by Reservoir**

Equivalent Current Designation	Area in Acres by Reservoir						
	Chatuge	Hiwassee	Blue Ridge	Nottely	Ocoees	Apalachia	Fontana
Project Operations	374	366	287	443	375	760	0
Natural Resource Conservation	735	473	0	123	0	0	0
Industrial	0	79	0	0	0	0	0
Recreation	370	39	11	92	0	83	0
Shoreline Access	2	<1	0	0	0	0	0
<b>TOTAL</b>	<b>1,481</b>	<b>957</b>	<b>298</b>	<b>658</b>	<b>375</b>	<b>843</b>	<b>0</b>

The number and acreages of planned and unplanned parcels of TVA land around the nine mountain reservoirs under Alternative A are shown in Table 2-4.

**Table 2-4. Alternative A – Planned and Unplanned Parcels and Area by Reservoir**

Reservoir	Total Number of Parcels	Total Number of Acres	Number of Unplanned Parcels	Unplanned Acres	Percent Planned	Percent Unplanned
Chatuge	109	1,767	57	286	84	16
Hiwassee	72	1,007**	20	50**	95	5
Blue Ridge	42	470**	40	172**	50	50
Nottely	42	829	37	170	77	21
Ocoee 1	29	77**	27	**	99+	<1
Ocoee 2	4	80	0	0	100	0
Ocoee 3	6	218	0	0	100	0
Apalachia	7	843**	2	**	99+	<1
Fontana	46	931**	46	931**	0	100
<b>Total</b>	<b>357</b>	<b>6,222</b>	<b>229</b>	<b>1,609</b>		

\*\*Includes narrow strip of TVA-retained land along shoreline; acreage not calculated

**2.2.2 Alternative B – The Proposed Land Use Plan Alternative**

TVA’s recent comprehensive reservoir land planning efforts allocate land to the following seven land use zones: Non-TVA Shoreland (Zone 1), Project Operations (Zone 2), Sensitive Resource Management (Zone 3), Natural Resource Conservation (Zone 4), Industrial (Zone 5), Developed Recreation (Zone 6), and Shoreline Access (Zone 7). These zones are described in detail in Table 2-1.

Under Alternative B, the Proposed Land Use Plan Alternative, TVA would adopt a new land management plan based on the current reservoir land planning process and zone allocation definitions (see Table 2-1) to guide future land use decisions over the next decade. The land areas for each of the proposed zone allocations are summarized by reservoir in Table 2-5, and the zone allocation for each individual parcel is identified in Appendix E. In addition to the 4,613 acres previously planned under the existing Forecast System (Alternative A), this alternative plans the 1,609 acres and corresponding 229 parcels not already planned. The proposed allocations are the result of the allocation process described above in Section 2.1.

**Table 2-5. Alternative B – Area by Current Allocation Zone by Reservoir**

Current Allocation Designation	Area in Acres by Reservoir							
	Chatuge	Hiwassee	Blue Ridge	Nottely	Ocoees	Apalachia	Fontana	Total
Zone 2	381	366	293	443	375	760	405	<b>3,023</b>
Zone 3	17	118	12	0	0	0	0	<b>147</b>
Zone 4	876	439**	28**	270	**	**	50**	<b>1,663</b>
Zone 5	0	0	0	0	0	0	0	<b>0</b>
Zone 6	414	41**	15**	95	**	83	435**	<b>1,083</b>
Zone 7	79	43	122	21	0	0	41	<b>305</b>
<b>TOTAL</b>	<b>1,766</b>	<b>1,007**</b>	<b>470**</b>	<b>829</b>	<b>375**</b>	<b>843**</b>	<b>931**</b>	<b>6,222</b>

\*\*Includes narrow strip of TVA-retained land along shoreline; acreage not calculated

Table 2-6 identifies parcels on two of the nine reservoirs—Chatuge and Hiwassee reservoirs—that would be allocated differently under Alternative B than previously allocated under the Forecast System (Alternative A). No changes in the proposed parcel allocation

under Alternative B have been determined for any parcels previously planned under the Forecast System for Blue Ridge, Nottely, the Ocoees, or Apalachia reservoirs. Under Alternative B, new allocations for the 229 parcels that were previously unplanned would reflect existing land uses, the vast majority of which are committed due to land use agreements or deeded rights, and therefore are not subject to potential changes in land use.

**Table 2-6. Allocations Differences Between Alternative A and Alternative B**

Parcel Number	Acres	Forecast System Alternative A	Proposed Land Plan Alternative B	Description and/or Current Use
<b>Chatuge Reservoir</b>				
60	1.8	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
<b>Hiwassee Reservoir</b>				
26	12.6	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
31	3.3	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
35	9.8	Industrial	Zone 4 (Natural Resource Conservation)	Upland Mixed Pine Hardwood
36	69.1	Industrial	Zone 4 (Natural Resource Conservation)	Unique Topography with Multiple Natural Habitat Features
40	21.3	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
42	3.4	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
44	6.6	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
46	16.9	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
52	14.6	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
54	9.8	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
55	3.6	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
59	5.8	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
62	11.6	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
63	4.0	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources

### 2.2.3 *Alternative C – The Proposed Modified Land Use Plan Alternative*

Under Alternative C, the Proposed Modified Land Use Plan Alternative, the allocations are the same as Alternative B for 352 (of 357) parcels containing 6,115 (of 6,222) acres. The land areas for each of the proposed zone allocations are summarized by reservoir in Table 2-7, and the zone allocation for each individual parcel is identified in Appendix E.

**Table 2-7. Alternative C – Area by Current Allocation Zone by Reservoir**

Allocation Zone	Area in Acres by Reservoir							
	Chatuge	Hiwassee	Blue Ridge	Nottely	Ocoees	Apalachia	Fontana	Total
Zone 2	381	366	293	443	375	760	405	<b>3,023</b>
Zone 3	17	118	12	0	0	0	0	<b>147</b>
Zone 4	775	435	28	270	**	**	50	<b>1,558</b>
Zone 5	27	0	0	0	0	0	0	<b>27</b>
Zone 6	488	45	15	95	**	83	435	<b>1,161</b>
Zone 7	78	43	122	21	0	0	41	<b>305</b>
<b>TOTAL</b>	<b>1,766</b>	<b>1,007</b>	<b>470</b>	<b>829</b>	<b>375</b>	<b>843</b>	<b>931</b>	<b>6,222</b>

\*\*Includes narrow strip of TVA-retained land along shoreline; acreage not calculated

Alternative C differs from Alternative B in that it allocates additional lands for Developed Recreation (Zone 6) and Industrial (Zone 5) use on Chatuge and Hiwassee reservoirs. These allocations, developed in response to proposals received during the scoping process, affect 101 acres on three parcels on Chatuge Reservoir and 4.4 acres on two parcels on Hiwassee reservoirs for a total of 105.4 acres. Table 2-8 identifies the parcels on Chatuge and Hiwassee reservoirs that would be allocated differently under Alternative C as compared to Alternative B (see Figures 2-1 through 2-5). The allocations for the other parcels on Chatuge and Hiwassee, as well as all parcels on the other mountain reservoirs, would be the same as for Alternative B.

**Table 2-8. Allocation Differences Between Alternative B and Alternative C**

Parcel Number	Area in Acres	Proposed Land Use Plan Alternative B	Proposed Modified Land Use Plan Alternative C	Description and/or Proposed Use
<b>Chatuge Reservoir</b>				
10	27.2	Zone 4	Zone 5	Request by BRMEMC for Industrial. Allocation to allow for sale of parcel for private industrial use.
52	7.4	Zone 4	Zone 6	Request by Towns Co., Ga., City of Hiwassee, Ga., and Georgia Department of Natural Resources for recreation area to include year-round boat launching ramp, fishing piers, and trails.
77	66.4	Zone 4	Zone 6	Request by Towns Co., Ga., and City of Hiwassee, Ga. for development of a multiple field sports complex and associated recreational facilities.
<b>Hiwassee Reservoir</b>				
34	2.4	Zone 4	Zone 6	Request by Town of Murphy, N.C., representatives for stream access site along Hiwassee River for wade fishing.
49	2.0	Zone 4	Zone 6	Request by Town of Murphy, N.C., and Heritage Riverwalk Partners for extension of Heritage Riverwalk Trail.

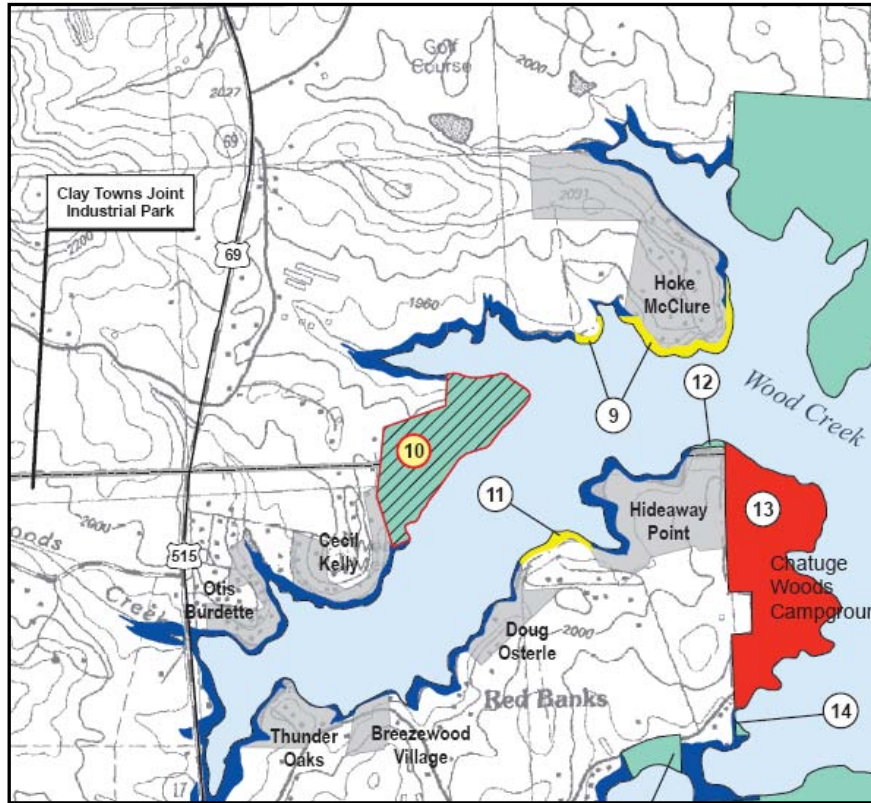


Figure 2-1. Chatuge Reservoir, Parcel 10

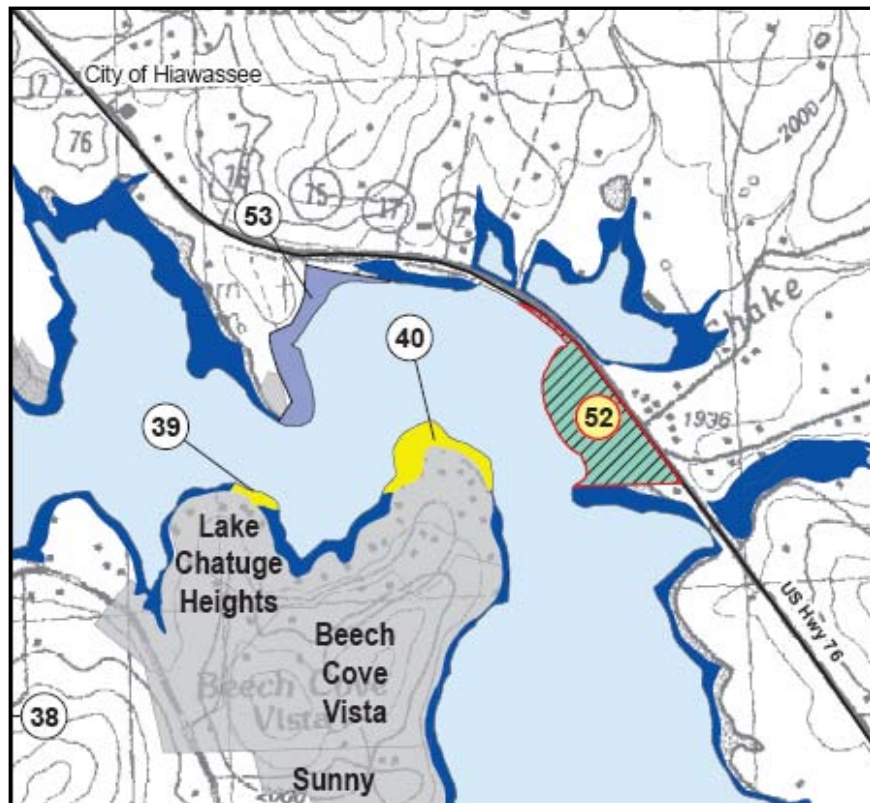


Figure 2-2. Chatuge Reservoir, Parcel 52

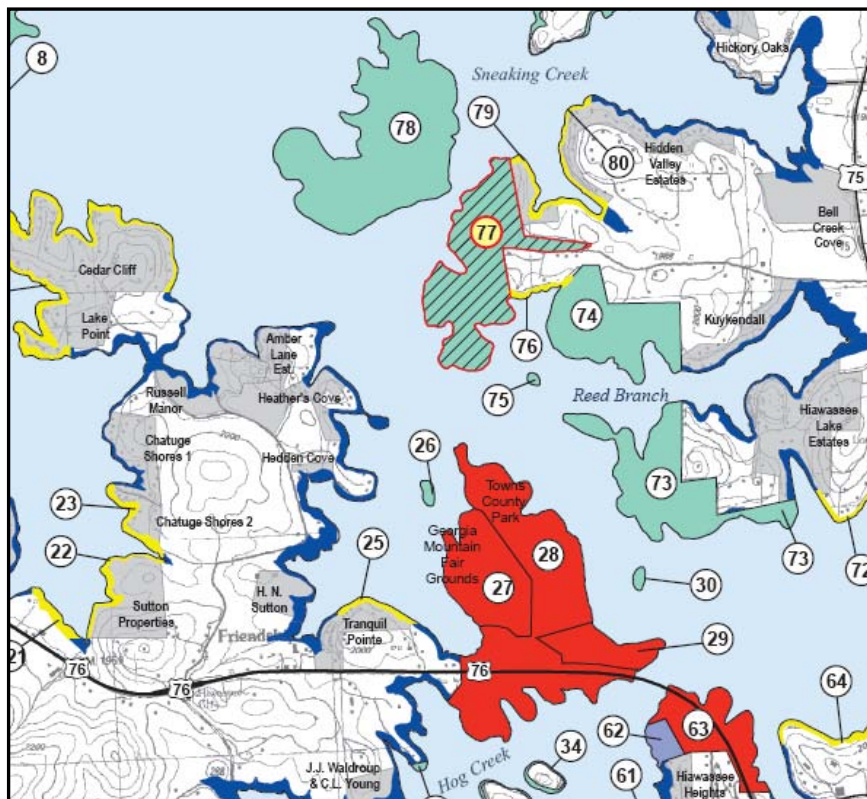


Figure 2-3. Chatuge Reservoir, Parcel 77

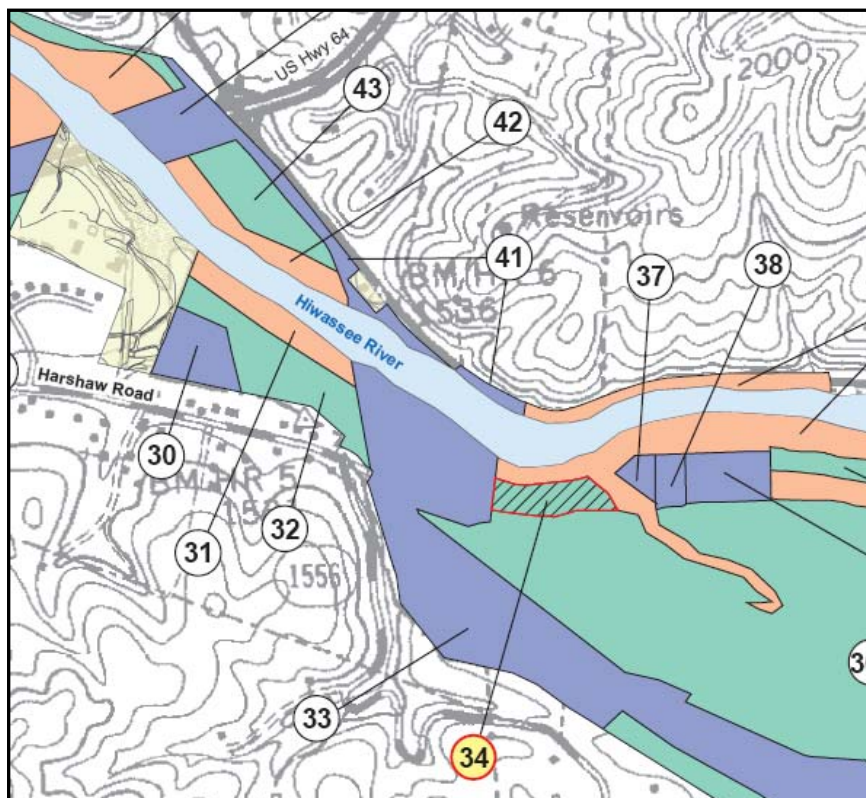
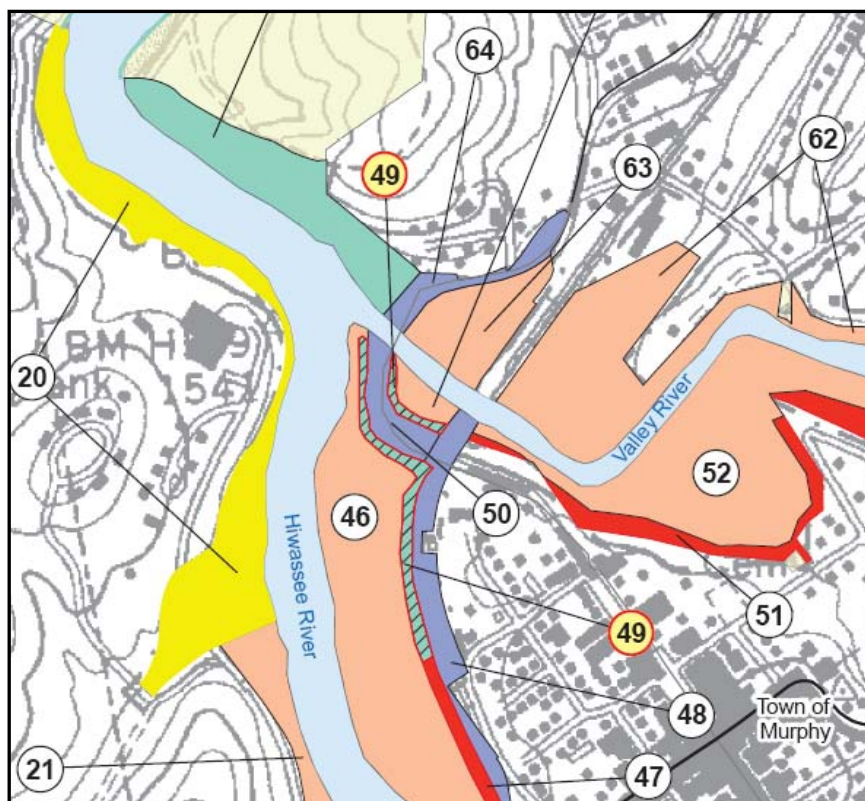


Figure 2-4. Hiwassee Reservoir, Parcel 34



**Figure 2-5. Hiwassee Reservoir, Parcel 49**

Under Alternative C, parcels requested by the public for a different, more development-oriented use were evaluated by TVA to determine if they are both capable and suitable for the proposed use. Parcels were evaluated using established criteria for each allocation category or zone. The capability/suitability criteria for Zones 4, 5, and 6 for the parcels listed in Table 2-8 are provided as Appendix F.

### **2.3 Comparison of Alternatives**

Table 2-9 summarizes the alternative land use allocations for each reservoir. Under Alternative A, the No Action/Forecast System Alternative, TVA does not have a management plan for 1,609 acres (26 percent) of its land on the nine mountain reservoirs, including all Fontana Reservoir lands. No land is allocated to Sensitive Resource Management, and only 2 acres are allocated for Shoreline Access. A smaller total percentage of the planned lands are allocated for Project Operations (42 percent) and Recreation (10 percent) than would be allocated under Alternative B or C. A smaller total percentage of planned lands are allocated for Natural Resource Conservation than would be allocated under Alternative B. Seventy-nine acres were forecast for industrial use on Hiwassee Reservoir and are allocated to Zone 5 in Alternative A; however, their current land use is undeveloped. The Forecast System is not comprehensive, does not align with TVA's SMP and Land Policy and, therefore, does not represent an optimal plan by which TVA would continue to manage the approximately 4,613 acres of previously planned TVA land on the mountain reservoirs.

Alternative B, the Proposed Land Use Plan Alternative, allocates parcels to one of the seven zones. Land use zone allocations were based on committed land uses, existing conditions, and protection of sensitive resources. About a quarter of the TVA land on the nine mountain reservoirs would be used for natural resource conservation purposes by allocating approximately 1,663.6 acres (27 percent) to Zone 4. There would be no Zone 5 (Industrial) allocations. A new allocation not previously represented under Alternative A would include 147.2 acres (2.4 percent) allocated to Zone 3 (Sensitive Resource Management). Additional lands (a total of 1,081.3 acres or 17.4 percent) would be allocated to Zone 6 (Recreation), and 304.9 acres (4.9 percent) would be allocated to Zone 7 (Shoreline Access). Use of TVA land for Zone 2 (Project Operations) would be roughly half (48.6 percent) of all of the planned lands.

Under Alternative C, the Proposed Modified Land Use Plan Alternative, 27.2 acres (0.4 percent) would be allocated to Zone 5 (Industrial) and an additional 80.2 acres (for a total of 1161.5 acres or 19 percent) would be allocated to Zone 6 (Developed Recreation). The parcels for which Alternative C allocations differ from Alternative B allocations are on Chatuge Reservoir (101 acres) and Hiwassee Reservoir (4.4 acres). Alternative C would decrease the total acreage allocated to Natural Resource Conservation (Zone 4) by 105.4 acres. Alternatives B and C allocations are the same for the remaining lands on Chatuge and Hiwassee reservoirs and for all lands on the other reservoirs.

**Table 2-9. Comparison of Land Uses (in Acres and Percent of Total) by Alternative**

Current Allocation Designation	Alternative A (acres)	Alternative A (percent)	Alternative B (acres)	Alternative B (percent)	Alternative C (acres)	Alternative C (percent)
<b>Chatuge Reservoir</b>						
Project Operations (Zone 2)	374	21.2	381.2	21.6	381.2	21.6
Sensitive Resource Management (Zone 3)	0	0	16.7	1.0	16.7	1.0
Natural Resource Conservation (Zone 4)	734.9	41.6	876	49.6	775	43.9
Industrial (Zone 5)	0	0	0	0	27.2	1.5
Developed Recreation (Zone 6)	370	20.9	414.2	13.5	488	27.6
Shoreline Access (Zone 7)	1.6	0	78.4	4.4	78.4	4.4
Unplanned	286	16.2	0	0	0	0
<b>Total</b>	<b>1,766.5</b>		<b>1,766.5</b>		<b>1,766.5</b>	
<b>Hiwassee Reservoir</b>						
Project Operations (Zone 2)	366.4	36.4	366.4	36.4	366.4	36.4
Sensitive Resource Management (Zone 3)	0	0	118.3	11.7	118.3	11.7
Natural Resource Conservation (Zone 4)	472.8	46.9	439.2**	43.6	434.8	43



Current Allocation Designation	Alternative A (acres)	Alternative A (percent)	Alternative B (acres)	Alternative B (percent)	Alternative C (acres)	Alternative C (percent)
Industrial (Zone 5)	78.9	7.8	0	0	0	0
Developed Recreation (Zone 6)	38.9	3.9	40.6**	4	45	4.5
Shoreline Access (Zone 7)	0.4	0	42.9	4.3	42.9	4.3
Unplanned	50**	5	0	0	0	0
<b>Total</b>	<b>1,007.4</b>		<b>1,007.4</b>		<b>1,007.4</b>	
<b>Blue Ridge Reservoir</b>						
Project Operations (Zone 2)	287	61.1	293.1	62.4	Same as Alternative B	Same as Alternative B
Sensitive Resource Management (Zone 3)	0	0	12.2	2.6	Same as Alternative B	Same as Alternative B
Natural Resource Conservation (Zone 4)	0	0	27.7**	5.9	Same as Alternative B	Same as Alternative B
Industrial (Zone 5)	0	0	0	0	Same as Alternative B	Same as Alternative B
Developed Recreation (Zone 6)	10.5	2.2	14.6**	3.1	Same as Alternative B	Same as Alternative B
Shoreline Access (Zone 7)	0	0	121.9	26	Same as Alternative B	Same as Alternative B
Unplanned	172.0**	36.6	0	0	Same as Alternative B	Same as Alternative B
<b>Total</b>	<b>469.5</b>		<b>469.5</b>		<b>469.5</b>	
<b>Nottely Reservoir</b>						
Project Operations (Zone 2)	443.3	53.5	443.3	53.5	Same as Alternative B	Same as Alternative B
Sensitive Resource Management (Zone 3)	0	0	0	0	Same as Alternative B	Same as Alternative B
Natural Resource Conservation (Zone 4)	123.2	14.8	270.3	32.6	Same as Alternative B	Same as Alternative B
Industrial (Zone 5)	0	0	0	0	Same as Alternative B	Same as Alternative B
Developed Recreation (Zone 6)	91.9	11.1	94.5	11.4	Same as Alternative B	Same as Alternative B
Shoreline Access (Zone 7)	0	0	20.5	2.4	Same as Alternative B	Same as Alternative B
Unplanned	170.2	20.5	0	0	Same as Alternative B	Same as Alternative B
<b>Total</b>	<b>828.6</b>		<b>828.6</b>		<b>828.6</b>	
<b>Ocoees Reservoirs</b>						
Project Operations (Zone 2)	375.3	100	375.3	100	Same as Alternative B	Same as Alternative B
Sensitive Resource Management (Zone 3)	0	0	0	0	Same as Alternative B	Same as Alternative B

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Current Allocation Designation	Alternative A (acres)	Alternative A (percent)	Alternative B (acres)	Alternative B (percent)	Alternative C (acres)	Alternative C (percent)
Natural Resource Conservation (Zone 4)	0	0	**	<0.1	Same as Alternative B	Same as Alternative B
Industrial (Zone 5)	0	0	0	0	Same as Alternative B	Same as Alternative B
Developed Recreation (Zone 6)	0	0	**	<0.1	Same as Alternative B	Same as Alternative B
Shoreline Access (Zone 7)	0	0	0	0	Same as Alternative B	Same as Alternative B
Unplanned	**	<0.1	0	0	Same as Alternative B	Same as Alternative B
<b>Total</b>	<b>375.3</b>		<b>375.3</b>		<b>375.3</b>	
<b>Apalachia Reservoir</b>						
Project Operations (Zone 2)	760.5	90.2	760.5	90.2	Same as Alternative B	Same as Alternative B
Sensitive Resource Management (Zone 3)	0	0	0	0	Same as Alternative B	Same as Alternative B
Natural Resource Conservation (Zone 4)	0	0	**	<0.1	Same as Alternative B	Same as Alternative B
Industrial (Zone 5)	0	0	0	0	Same as Alternative B	Same as Alternative B
Developed Recreation (Zone 6)	82.8	9.8	82.8	9.8	Same as Alternative B	Same as Alternative B
Shoreline Access (Zone 7)	0	0	0	0	Same as Alternative B	Same as Alternative B
Unplanned	**	<0.1	0	0	Same as Alternative B	Same as Alternative B
<b>Total</b>	<b>843.3</b>		<b>843.3</b>		<b>843.3</b>	
<b>Fontana Reservoir</b>						
Project Operations (Zone 2)	0	0	404.8	43.4	Same as Alternative B	Same as Alternative B
Sensitive Resource Management (Zone 3)	0	0	0	0	Same as Alternative B	Same as Alternative B
Natural Resource Conservation (Zone 4)	0	0	50.4**	5.4	Same as Alternative B	Same as Alternative B
Industrial (Zone 5)	0	0	0	0	Same as Alternative B	Same as Alternative B
Developed Recreation (Zone 6)	0	0	434.6**	46.6	Same as Alternative B	Same as Alternative B
Shoreline Access (Zone 7)	0	0	41.2	4.4	Same as Alternative B	Same as Alternative B
Unplanned	931.0**	100	0	0	Same as Alternative B	Same as Alternative B
<b>Total</b>	<b>931.0</b>		<b>931.0</b>		<b>931.0</b>	
<b>TOTALS (ALL RESERVOIRS)</b>						
Project Operations (Zone 2)	2,606.5	41.9	3,024.6	48.6	3,024.6	48.6

Current Allocation Designation	Alternative A (acres)	Alternative A (percent)	Alternative B (acres)	Alternative B (percent)	Alternative C (acres)	Alternative C (percent)
Sensitive Resource Management (Zone 3)	0	0.0	147.2	2.4	147.2	2.4
Natural Resource Conservation (Zone 4)	1,330.9	21.4	1,663.6	26.7	1,556.2	25
Industrial (Zone 5)	78.9	1.3	0	0.0	27.2	0.4
Developed Recreation (Zone 6)	594.1	9.5	1,081.3	17.4	1,161.5	18.7
Shoreline Access (Zone 7)	0.4	0.0	304.9	4.9	304.9	4.9
Unplanned	1,609.2	25.8	0	0	0	0
<b>Total</b>	<b>6,221.6</b>		<b>6,221.6</b>		<b>6,221.6</b>	

\*\*Includes narrow strip of TVA-retained land along shoreline; acreage not calculated

## 2.4. Impacts Summary

The summary of environmental impacts for Chatuge and Hiwassee reservoirs is presented in Table 2-10. The summary of environmental impacts for Blue Ridge, Nottely, the Ocoees, Apalachia, and Fontana reservoirs is presented in Table 2-11.

**Table 2-10. Summary of Environmental Impacts of the Alternatives for Chatuge and Hiwassee Reservoirs**

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Modified Land Use Plan
Land Use	<p><u>Chatuge Reservoir</u> Would not result in any parcels changing from an undeveloped land use to a developed land use</p> <p><u>Hiwassee Reservoir</u> Two presently undeveloped parcels remain available for industrial development</p> <p>No significant direct or indirect impacts expected</p>	<p><u>Chatuge and Hiwassee Reservoir</u> Represents existing land use condition; would not result in any parcels changing from an undeveloped land use to a developed land use</p> <p>No significant direct or indirect impacts expected</p>	<p><u>Chatuge and Hiwassee Reservoir</u> Would result in change from an undeveloped land use to a developed industrial or recreational use on three parcel (Parcels 10, 52, and 77) on Chatuge Reservoir and two parcels (Parcels 34 and 49) on Hiwassee Reservoir</p> <p>Area allocated to Zone 4 under Alternatives A and B would decrease by 105.4 acres</p> <p>No significant direct or indirect impacts expected</p> <p>Minor insignificant prime farmland impacts</p>

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Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Modified Land Use Plan
Recreation	<p><u>Chatuge Reservoir</u> No adverse impacts to developed or dispersed recreation opportunities</p> <p><u>Hiwassee Reservoir</u> No adverse impacts to developed recreation opportunities; potential industrial development of two parcels would decrease dispersed recreation opportunities</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> No change from existing opportunities for developed or dispersed recreation; additional recreation facility development would occur at existing recreation areas</p>	<p><u>Chatuge Reservoir</u> Additional Zone 6 allocations (73.8 acres) would increase developed recreation facilities and decrease dispersed recreation opportunities; allocation of Parcel 10 to Zone 5 would decrease dispersed recreation opportunities currently available on the parcel (27.3 acres)</p> <p><u>Hiwassee Reservoir</u> Additional Zone 6 allocations (4.4 acres) would allow for development of new walking trails and a new river access site that would provide for increased diverse recreation opportunities</p>
Terrestrial Ecology - Plants	<p><u>Chatuge and Hiwassee Reservoirs</u> Changes in land use would not occur on parcels containing rare plant communities Impacts to plant communities would be insignificant</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> Impacts similar to Alternative A</p> <p>Several parcels allocated for Zone 3 would result in long-term beneficial effects to plants</p> <p><u>Hiwassee Reservoir</u> Two parcels allocated to Zone 5 under Alternative A would be allocated to Zone 4, thus providing additional protection on these parcels</p> <p>No significant direct or indirect impacts expected</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> Impacts similar to Alternative B except for five parcels</p> <p><u>Chatuge Reservoir</u> Parcel 10 - Destruction of old-growth forest; however, regionally insignificant; potential spread of invasive species Insignificant impacts to plant communities from development of Parcel 52 for recreation Potential impacts to plant communities from recreational development of parcel 77 would be regionally insignificant</p> <p><u>Hiwassee Reservoir</u> Insignificant impacts to plant communities from development of two parcels for recreation</p>

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Modified Land Use Plan
Wildlife	<p><u>Chatuge Reservoir</u> Changes in wildlife habitat restricted to changes in land use on existing developed parcels and therefore insignificant</p> <p>No adverse impacts to wildlife</p> <p><u>Hiwassee Reservoir</u> Possible wildlife impacts from parcels allocated for industrial development</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> Allocations reflect existing land use and would not result in adverse cumulative impacts to wildlife and habitat</p> <p>Many parcels allocated to Zone 3 would enhance management of wildlife resources</p>	<p><u>Chatuge Reservoir</u> Parcel 10 – negative effects to wildlife; however, regionally would be minimal; Parcel 52 has limited wildlife value; impacts to wildlife would be minimal; development of Parcel 77 would have negative local impacts to wildlife</p> <p><u>Hiwassee Reservoir</u> Insignificant impacts to wildlife and wildlife habitat due to recreational development on Parcels 34 and 49</p>
Threatened and Endangered Species	<p><u>Chatuge and Hiwassee Reservoirs</u> No direct impacts to federally listed plant, terrestrial animal, or aquatic animal species are expected</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> No adverse direct, indirect, or cumulative impacts to federally listed species are expected</p> <p>Parcels containing listed plant and animals would be allocated to Zone 3</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> No adverse effects on listed plants or terrestrial animals are anticipated</p> <p>No federally or state-listed aquatic animal species are known to occur near any parcels proposed for development under Alternative C</p>
Wetlands	<p><u>Chatuge and Hiwassee Reservoirs</u> Under Alternative A, unplanned and uncommitted parcels containing wetlands would generally continue to be managed as they have been in the past, and actions with the potential to affect wetlands would be assessed prior to their implementation</p> <p>No significant adverse impacts expected.</p>	<p><u>Chatuge and Hiwassee Reservoir</u> No direct impacts Less potential for adverse impacts than Alternative A</p> <p>Parcels containing wetlands would be allocated to Zone 3</p> <p>No cumulative impacts to wetlands</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> Parcels containing wetlands would be allocated to Zone 3</p> <p>No wetlands associated with Chatuge Parcels 10, 52, or 77 or Hiwassee Parcels 34 and 49</p> <p>No significant cumulative impacts to wetlands expected</p>
Floodplains	<p><u>Chatuge and Hiwassee Reservoirs</u> Insignificant floodplain impacts</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> Floodplain impacts less than Alternative A</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> Floodplain impacts somewhat greater than Alternative B because more parcels allocated to Developed Recreation and Industry; overall impacts insignificant</p>

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Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Modified Land Use Plan
Archaeological Resources	<p align="center"><u>Chatuge and Hiwassee Reservoir</u></p> <p>Archaeological resources would be avoided or protected when complying with National Historic Preservation Act (NHPA) and Aquatic Resources Protection Act (ARPA); if avoidance is not possible, potential adverse effects to significant resources would be mitigated; adverse effects would be minimized to archaeological resources</p>		<p><u>Chatuge and Hiwassee Reservoir</u></p> <p>Development of the five additional parcels may adversely affect archaeological resources through ground-disturbing activities</p> <p>Adverse effects may be averted through avoidance and/or protection of archaeological resources. Where adverse effects cannot be avoided, mitigation through archaeological excavations or other means would be required</p>
Historic Structures	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Potential effects to historic structures would be insignificant</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Potential effects to historic structures would be insignificant</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Potential effects to historic structures from development of Chatuge Parcels 10, 52, and 77 and Hiwassee Parcels 34 and 49 would be avoided or mitigated to an insignificant level</p>
Managed Areas	<p align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>No adverse effects to TVA or other managed areas including Raven Rock Small Wild Area on Hiwassee</p>		<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>No TVA natural areas occur on or adjacent to the five parcels proposed for development</p>
Visual Resources	<p><u>Chatuge Reservoir</u></p> <p>No significant changes in existing land use expected; recreational development would be limited to existing developed areas; therefore, no significant impacts to visual resources are expected</p> <p><u>Hiwassee Reservoir</u></p> <p>Potential for adverse visual impacts if the 2 parcels allocated for Industrial are developed.</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Scenic integrity would remain moderate or higher; greater protection to visual resources than Alternative A</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Minor adverse impact to visual resources</p>
Water Quality and Aquatic Ecology	<p><u>Chatuge Reservoir</u></p> <p>Parcel allocations will not result in significant land use changes from undeveloped to developed use, therefore, no significant impacts expected.</p> <p><u>Hiwassee Reservoir</u></p> <p>Potential impacts if the two parcels on Hiwassee were developed for industrial use;</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>No parcels changing from undeveloped to developed land use.</p> <p>Insignificant cumulative impacts to water quality and aquatic ecology</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Recreational and industrial development would be subject to best management practice (BMP) implementation and regulatory controls</p> <p>Insignificant cumulative impacts to water quality and aquatic ecology</p>

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Modified Land Use Plan
	Insignificant cumulative impacts to water quality and aquatic ecology		
Air Quality	<p><u>Chatuge Reservoir</u> Insignificant impacts to local air quality</p> <p><u>Hiwassee Reservoir</u> Greatest potential for air impacts from potential future industrial development.</p> <p>Minor decrease in air quality, expected to be insignificant</p>	<p><u>Chatuge and Hiwassee Reservoir</u> No Industrial allocation</p> <p>Decrease in potential for air pollutants compared to Alternative A</p>	<p><u>Chatuge Reservoir</u> Greater potential than Alternative B for air impacts from industrial development</p> <p>Increase in air pollutants over Alternative B.</p> <p><u>Hiwassee Reservoir</u> Insignificant impacts to local air quality</p>
Noise	<p><u>Chatuge Reservoir</u> Insignificant impacts</p> <p><u>Hiwassee Reservoir</u> Greatest potential for noise impacts from Industrial</p>	<p><u>Chatuge and Hiwassee Reservoir</u> Insignificant impacts</p>	<p><u>Chatuge Reservoir</u> Greatest potential for noise impacts from Industrial; lesser potential from Developed Recreation</p> <p><u>Hiwassee Reservoir</u> Insignificant impacts</p>
Socio-economics	<p><u>Chatuge Reservoir</u> No change from current situation</p> <p><u>Hiwassee Reservoir</u> Potential for new industry and new jobs on Hiwassee Reservoir</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> Impacts are expected to be insignificant</p>	<p><u>Chatuge Reservoir</u> Potential for new jobs from industrial development of Chatuge Parcel 10</p> <p><u>Hiwassee Reservoir</u> Insignificant impacts</p>

**Table 2-11. Summary of Environmental Impacts of the Alternatives for Blue Ridge, Nottely, the Ocoees, Apalachia, and Fontana Reservoirs**

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternatives B and C Proposed Land Use Plan
Land Use	<p><u>All Reservoirs</u> Would not result in any parcels changing from an undeveloped land use to a developed land use, with exception of two parcels on Hiwassee allocated to Industrial</p> <p>Insignificant impacts to land use expected</p>	<p><u>All Reservoirs</u> Allocations consistent with existing land uses; no changes in land use proposed</p> <p>Insignificant impacts from existing uses</p> <p>No prime farmland impacts to any reservoir</p>

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Potential Resources Impacted	Alternative A No Action/Forecast System	Alternatives B and C Proposed Land Use Plan
Recreation	<u>All Reservoirs</u> No new recreation areas; any new facilities would be located within existing recreation areas; potential impacts to formal and dispersed recreation expected to be insignificant	
Terrestrial Ecology - Plants	<u>All Reservoirs</u> Insignificant impacts to terrestrial plant communities	<u>All Reservoirs</u> Insignificant impacts to terrestrial plant communities  Sensitive resource allocation (Zone 3) should add greater protection
Wildlife	<u>All Reservoirs</u> Insignificant impacts to wildlife communities	<u>All Reservoirs</u> Insignificant impacts to wildlife  Sensitive resource allocation (Zone 3) should add greater protection
Endangered and Threatened Species	<u>All Reservoirs</u> No adverse direct, indirect, or cumulative impacts to federally listed species are expected	
Wetlands	<u>All Reservoirs</u> No adverse effects to wetlands	
Floodplains	<u>All Reservoirs</u> No adverse effects to floodplains	
Archaeological Resources	<u>All Reservoir</u> Archaeological resources would be avoided or protected when complying with NHPA and ARPA; if avoidance is not possible, potential adverse effects to significant resources would be mitigated; adverse effects would be minimized to archaeological resources	
Historic Structures	<u>All Reservoirs</u> Potential effects to historic structures would be insignificant	
Managed Areas	<u>All Reservoirs</u> No adverse effects to TVA or other managed areas	
Visual Resources	<u>All Reservoirs</u> Scenic integrity would remain moderate or higher	
Aquatic Ecology and Water Quality	<u>All Reservoirs</u> Insignificant cumulative impacts to water quality and aquatic ecology	
Air Quality and Noise	<u>All Reservoirs</u> Insignificant Impacts	
Socioeconomics	<u>All Reservoirs</u> No change from current situation	

**2.5 The Preferred Alternative**

TVA proposes to update the current Forecast System allocations by adopting a new land management plan based on the seven land use zones listed in Table 2-1. Alternatives B and C both establish this new land plan. TVA has no preference between Alternatives B and C and would like to receive additional input from the general public.



## 2.6 Summary of TVA Commitments and Proposed Mitigation Measures

NEPA and its implementing regulations require that an EIS identify appropriate and reasonable mitigation measures for the adverse impacts potentially resulting from a proposed action. Mitigation measures are actions that could be taken to avoid, minimize, rectify, offset, reduce, or compensate for adverse impacts to the environment. The following commitments and mitigation measures have been identified by TVA that could be implemented during the proposed management plan.

- TVA will continue the present case-by-case assessments of land-disturbing actions such as shoreline stabilization, construction of water use facilities, or public recreational development through phased identification and evaluation of historic properties. If avoidance were not possible, then proper procedures would be implemented in the mitigation of the historic property. If mitigation were required, appropriate archaeological investigation would be necessary and potentially impacted resources would be properly recorded and removed. Resources would be protected in the course of complying with regulatory requirements of the NHPA and ARPA. Archaeological resources within these areas would be avoided and protected whenever possible. The adverse effects to significant archaeological resources will be minimized by mitigation through data recovery excavations or other means pursuant to 36 CFR Part 800.
- TVA would execute separate programmatic agreements (PAs) in Georgia, North Carolina, and Tennessee for the identification, evaluation, and treatment of all historic properties in the APE. Until the PAs are executed, TVA will incorporate the phased identification, evaluation, and treatment procedure to effectively preserve historic properties as required by Section 106 of the NHPA.
- Prior to approving any industrial development of this land, TVA would conduct an appropriate level of environmental review to document the extent of expected air quality impacts. Each such review that involved a parcel in or potentially affecting a nonattainment area for ozone and/or PM<sub>2.5</sub> would require a conformity applicability determination pursuant to regulations implementing Section 176(c) of the Clean Air Act to assure compatibility with measures in local plans for achieving attainment.
- Indiana bat surveys would be performed during future projects in the vicinity of Fontana Reservoir that have the potential to affect summer roost habitat.
- TVA requires BMPs to minimize impacts to natural resources associated with any new proposed development fronting residential access areas.