

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 the condition of and on resources on the lands being planned. Each parcel of land was reviewed to determine its physical capability for supporting potential suitable uses (see Appendix D, 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 shore land includes:</p> <ul style="list-style-type: none"> • Flowage easement land—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. • Privately owned reservoir land—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.
2	Project Operations	<p>All TVA reservoir land currently used for TVA operations and public works projects, including:</p> <ul style="list-style-type: none"> • Land adjacent to established navigation operations—Locks, lock operations and maintenance facilities, and the navigation work boat dock and bases. • Land used for TVA power projects operations—Generation facilities, switchyards, and transmission facilities and rights-of-way. • Dam reservation land—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. • Navigation safety harbors/landings—Areas used for tying off commercial barge tows and recreational boats during adverse weather conditions or equipment malfunctions.

Zone		Definition
		<ul style="list-style-type: none"> • Navigation dayboards and beacons—Areas with structures placed on the shoreline to facilitate navigation. • Public works projects—Includes public utility infrastructure, such as substations and rights-of-way for sewer lines, water lines, transmission lines, and major highway projects. • Land planned for any of the above uses in the future.
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.</p> <p>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"> • TVA-designated sites with potentially significant archaeological resources. • TVA public land with sites/structures listed on or eligible for listing on the National Register of Historic Places. • Wetlands—Aquatic bed, emergent, forested, and scrub-shrub wetlands as defined by TVA. • TVA public land under easement, lease, or license to other agencies/individuals for resource protection purposes. • TVA public land fronting land owned by other agencies/individuals for resource protection purposes. • Habitat Protection Areas—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. • Ecological Study Areas—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. • Small Wild Areas—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. • River Corridor with sensitive resources—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. • Significant scenic areas—Areas designated for visual protection because of their unique vistas or particularly scenic qualities. • Champion tree site—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.

Zone		Definition
		<ul style="list-style-type: none"> • Other sensitive ecological areas—Examples of these areas include heron rookeries, uncommon plant and animal communities, and unique cave or karst formations. • Land planned for any of the above uses in the future.
4	Natural Resource Conservation	<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"> • TVA public land under easement, lease, or license to other agencies for wildlife or forest management purposes. • TVA public land fronting land owned by other agencies for wildlife or forest management purposes. • TVA public land managed for wildlife or forest management projects. • Dispersed 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 back-lying property that are managed for wildlife, water quality, or visual qualities. • Wildlife Observation Areas—TVA Natural 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 green space along both stream banks 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.
5	Industrial	<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: (1) Access for water supply or structures associated with navigation such as barge terminals, mooring cells, etc., or (2) Land-based development potential.</p> <p>Areas included are:</p> <ul style="list-style-type: none"> • TVA public land under easement, lease, or license to other agencies/individuals for purposes described above. • TVA public land fronting land owned by other agencies/individuals for industrial purposes described above. • In some cases, TVA land allocated to industrial use would be declared surplus and sold at public auction. <p>Types of development that can occur on this land are:</p> <ul style="list-style-type: none"> • Light Industrial—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).

Zone		Definition
		<ul style="list-style-type: none"> • Industrial Access—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. • 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 that have both offshore and onshore 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.
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>Water Access—Small parcels of land, generally less than 10 acres, and typically shoreline areas conveyed to public agencies for public access.</p> <p>Public—More recreational opportunities, some facilities, more than a parking lot and boat ramp. This includes areas conveyed for public recreation.</p> <p>Commercial—Property suitable and capable to support commercial water-based operations. This includes areas conveyed for commercial recreation.</p> <p>Land managed for concentrated, active recreational activities that require capital improvement and maintenance, including:</p> <ul style="list-style-type: none"> • <i>TVA public land under easement, lease, or license to other agencies/individuals for recreational purposes.</i> • <i>TVA public land fronting land owned by other agencies/individuals for recreational purposes.</i> • <i>TVA public land developed for recreational purposes, such as campgrounds, day use areas, etc.</i> • <i>Land planned for any of the above uses in the future.</i> <p>Types of development that can occur on this land are:</p> <ul style="list-style-type: none"> • <i>Water access</i>, e.g., areas that tend to have limited development and can include a launching ramp, courtesy piers, canoe access, parking areas, picnic areas, trails, etc. • <i>Public Recreation</i>—recreation on publicly owned land. These areas typically have facilities or uses developed by a public agency and provide amenities open to the general public. Facilities at “public recreation” areas could include: 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 campgrounds.

Zone		Definition
		<p>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.</p> <p>Public recreation uses typically include areas and facilities owned and operated by the federal, state, county, or local government (municipalities/communities). However, private entities may operate recreation facilities on public property as concessionaires under agreement with the public entity controlling the property. 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.</p> <ul style="list-style-type: none"> • Commercial Recreation—is defined as recreation amenities that are provided for a fee to the public 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; and excursion tour vessels (restaurant on the water). These uses and activities 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 appropriate compensation for the use of the property. • Greenways—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.
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"> • Residential water use facilities, e.g., docks, piers, launching ramps/driveways, marine railways, boathouses, enclosed storage space, and nonpotable water intakes. • Shoreline access corridors, e.g., pathways, wooden steps, walkways, or mulched paths that can include portable picnic tables and utility lines. • Shoreline stabilization, e.g., bioengineering, riprap and gabions, and retaining walls. • Shoreline vegetation management.

Committed Land

Most likely, 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 committed land use would be to prevent or remedy 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. Altogether, approximately 5,142 acres (83 percent) of the TVA land surrounding the mountain reservoirs are committed. Agricultural licenses are not considered committed uses because they are an interim use of TVA land. The committed and uncommitted lands on the nine mountain reservoirs are summarized as Table 2-2.

Table 2-2. Committed and Uncommitted Parcels on the Mountain Reservoirs

Reservoir	Committed		Uncommitted		Total Number of Parcels	Total Acres
	Number of Parcels	Acres	Number of Parcels	Acres		
Chatuge	82	1,047.6	28	717.5	110	1,765.1
Hiwassee	60	780.7	14	226.7	74	1,007.4
Blue Ridge	38	456.6	4	12.9	42	469.5
Nottely	39	707.7	3	120.9	42	828.6
Ocoee 1	29	77.4	0	0	29	77.4
Ocoee 2	4	79.6	0	0	4	79.6
Ocoee 3	6	218.3	0	0	6	218.3
Apalachia	7	843.3	0	0	7	843.3
Fontana	46	931.0	0	0	46	931.0
Total	311	5,142.2	49	1078.0	360	6,220.2

In the allocation process, 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, subsequent to an appropriate level of environmental review, would be required prior to future activities that could impact the identified sensitive resources.

Since originally acquiring the mountain reservoirs lands, TVA has 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 five 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 the public land TVA retained below the MSC has deeded rights of ingress and egress for water access from the back-lying property. Based on the TVA SMP, these back-lying property owners with access rights may apply to TVA for approval to construct private water use facilities on the TVA-managed 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. Although 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 by covenants and provisions in the transfer agreement. 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 (1,078 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 economic development met to allocate the parcels of TVA public land into the seven planning zones. Maps that identified the location of known and potential sensitive resources (e.g., cultural resources, wetlands, and threatened and endangered species) were used in determining the capability and suitability for potential uses of each parcel.

Property Administration

The MRLMP identifies the suitable uses for each tract of TVA-managed land around the nine mountain reservoirs, consistent with TVA policy and guidelines and applicable laws and regulations. As administrators of TVA land, the watershed team will use 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 the TVA Environmental Information Center at 1-800-882-5263.

Pursuant to the TVA Land Policy, TVA would 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.

There are three non-Zone 7 parcels on the mountain reservoirs over which the private backlying property owners currently have deeded access rights. In the MRLMP, these parcels would be allocated consistent with the current backlying land use. Should the private backlying land become residential, a request for a change of allocation of any or all of the subject TVA parcels to Zone 7 (Shoreline Access) would be subject, with appropriate environmental review, to action by the TVA Board or to Board-approved policy.

Consistent with the TVA Land Policy, those parcels or portions of parcels that have become fragmented from the reservoir may be declared surplus and sold at public auction. Parcel 29, which is approximately 0.5 acre in size, on Hiwassee Reservoir meets these criteria.

Public works/utility projects such as easements for pipelines, power or communication wires, roads or other public infrastructure proposed on any TVA public land that do not affect the zoned land use or sensitive resources would not require an allocation change so

long as such projects would be compatible with the use of the allocated zone. Proposed public works/utility projects would, however, be subject to a site-specific environmental review. 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 and the allocated use and otherwise acceptable to TVA will be reviewed in accordance with NEPA and conform to the requirements of other applicable environmental regulations and other legal authorities.

2.2 Alternatives

TVA identified three alternatives in the draft EIS. However, after considering public input and comments from public agencies and officials, a new alternative, the Blended Alternative, was developed. The following four feasible alternatives are analyzed and compared in the final EIS:

- The No Action/Forecast System Alternative (Alternative A), under which TVA would continue to use the Forecast System to manage 4,611 acres of its mountain reservoirs lands. The remaining 1,609 acres of land that were not planned under the Forecast System would be subject to management in accordance with existing commitments and land use agreements as well as the TVA SMP and Land Policy.
- The Proposed Land Use Plan Alternative (Alternative B), under which TVA would allocate its lands to one of the six zones described in Table 2-1. (TVA does not allocate any of its lands to Zone 1, which is Non-TVA Shoreland.) This allocation process would facilitate the management of these lands. Allocations would be consistent with existing uses of the reservoir lands.
- The Proposed Modified Land Use Plan Alternative (Alternative C), which is similar to Alternative B. However, under Alternative C, a few parcels would be allocated to more development-oriented uses in response to requests received during the public scoping process.
- The Blended Alternative (Alternative D), which is a combination of Alternative B and Alternative C. Under this alternative, two parcels would be allocated to recreational use as they are under Alternative C, while the balance of the parcels would be allocated to the same uses as under Alternative B.

Regardless of the alternative, the following conditions would apply.

- Any proposed development or activity on public land will be subject to TVA approval pending the completion of a site-specific environmental review to evaluate the potential environmental effects of the proposal. As necessary, TVA would impose any necessary mitigative measures as conditions of approval for the use of public lands to prevent adverse environmental effects or to reduce potential effects to insignificant levels.
- Future activities and land uses will be guided by the 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).

In addition to the provision of a new alternative, minor changes were made in parcel delineations on Chatuge and Hiwassee reservoirs in the final EIS. Specifically, the 7.4-acre Parcel 52 on Chatuge Reservoir was split into two parcels -- Parcel 52 (6.1 acres) and Parcel 52a (1.9 acres). Also, two parcels were added to Hiwassee Reservoir. The addition of these two parcels was necessary to accommodate a reallocation of shoreline property fronting the USFS recreation facilities at Grape Creek. These changes involved no additional acreage and are shown in the attached pocket maps.

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 planned previously utilizing the Forecast System developed in 1965. The ninth, 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 to document actual and prospective uses for all TVA public land around a reservoir using a somewhat variable set of Forecast System designations (see Appendix E). Under the Forecast System, land was allocated into one of 13 categories. Of these 13 categories, the following six were used to classify TVA land surrounding the eight 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 4,611 acres on the mountain reservoirs utilizing the Forecast System. These lands, as well as an additional 1,609 acres that were not planned under the Forecast System, are the subject of the current planning process.

Under Alternative A, the No Action/Forecast System Alternative, TVA would continue to use the Forecast System designations to manage the 4,611 acres (approximately 74 percent) that were previously forecast in the 1970s out of the total of approximately 6,220 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 (as listed in Table 2-1) under this alternative. 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, the zone allocation was chosen based on existing land use. In some cases, a parcel with the appropriate 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 F, 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 were utilized for the 4,611 acres previously planned. These zone designations included: 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 two 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 their land uses will not change because 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	374.0	366.4	287.0	443.3	375.3	760.5	0.0
Natural Resource Conservation	733.5	471.2	0.0	123.2	0.0	0.0	0.0
Industrial	0.0	80.5	0.0	0.0	0.0	0.0	0.0
Recreation	370.0	38.9	10.5	91.9	0.0	82.8	0.0
Shoreline Access	1.6	0.4	0.0	0.0	0.0	0.0	0.0
Total	1,479.1	957.4	297.5	658.4	375.3	843.3	0.0

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. As shown in Table 2-4, 231 of the total 360 parcels are unplanned. However, because these unplanned parcels tend to be small, they total only 1,609.2 acres. Of the 360 parcels, 311 are committed (see Table 2-2). Of the 49 parcels that are uncommitted, 12 are unplanned. These 12 parcels comprise a total of 14.9 acres.

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	110	1,765.1	57	286.0	83.8	16.2
Hiwassee	74	1,007.4*	22	50.0*	95.0	5.0
Blue Ridge	42	469.5*	40	172.0*	63.4	36.6
Nottely	42	828.6	37	170.2	79.5	20.5
Ocoee 1	29	77.4*	27	*	99+	<1
Ocoee 2	4	79.6	0.0	0.0	100.0	0.0
Ocoee 3	6	218.3	0.0	0.0	100.0	0.0
Apalachia	7	843.3*	2	*	99+	<1
Fontana	46	931.0*	46	931.0*	0.0	100.0
Total	360	6,220.2	231	1,609.2		

*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 to guide future land use decisions over the next decade. Acreages 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 F. In addition to the 4,611 acres previously planned under the existing Forecast System (Alternative A), the 1,609 acres and corresponding 231 parcels not already planned would be allocated under this alternative. 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	Acreage by Reservoir							Total (acres)
	Chatuge	Hiwassee	Blue Ridge	Nottely	Ocoees	Apalachia	Fontana	
Zone 2	381.2	366.4	293.1	443.3	375.3	760.5	404.8	3,024.6
Zone 3	16.7	114.7	12.2	0.0	0.0	0.0	0.0	143.6
Zone 4	874.6	442.8	27.7**	270.3	**	**	50.4**	1,165.8
Zone 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Zone 6	414.2	40.6**	14.6**	94.5	**	82.8	434.6	1,081.3
Zone 7	78.4	42.9	121.9	20.5	0.0	0.0	41.2	304.9
Total	1,765.1	1,007.4**	469.5**	828.6	375.3**	843.3**	931.0**	6,220.2

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

Differences in parcel allocations under Alternative A (the Forecast System) and Alternative B are listed in Table 2-6. These allocation differences would occur on two of the nine reservoirs -- Chatuge and Hiwassee reservoirs. No changes in the proposed parcel allocations under Alternative B have been determined for any parcels planned under the Forecast System for Blue Ridge, Nottely, the Ocoees, or Apalachia reservoirs. Under Alternative B, new allocations for the 231 parcels that were previously unplanned would reflect existing land uses. The vast majority of these are committed due to land use agreements or deeded rights; therefore, they were not subject to potential changes in land use.

Table 2-6. Allocation Differences Between Alternative A and Alternative B

Parcel Number	Acres	Forecast System Alternative A	Proposed Land Plan Alternative B	Description and/or Current Use
Chatuge Reservoir				
60	1.8	Natural Resource Conservation	Zone 3 (Sensitive Resource Management)	Protection of Sensitive Natural Resources
Hiwassee Reservoir				
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	70.7	Industrial	Zone 4 (Natural Resource Conservation)	Unique Topography with Multiple Natural Habitat Features
40	17.4	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	17.2	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
Total	192.2			

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 those under Alternative B for 351 (of 360) parcels containing approximately 6,115 (of 6,220) 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 F.

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

Allocation Zone	Acreage by Reservoir							Total (acres)
	Chatuge	Hiwassee	Blue Ridge	Nottely	Ocoees	Apalachia	Fontana	
Zone 2	381.2	366.4	293.1	443.3	375.3	760.5	404.8	3,024.6
Zone 3	16.7	114.7	12.2	0.0	0.0	0.0	0.0	143.6
Zone 4	773.0	438.8	27.2	270.3	**	**	50.4	1,560.2
Zone 5	27.2	0.0	0.0	0.0	0.0	0.0	0.0	27.2
Zone 6	488.6	44.6	14.6	94.5	**	82.8	434.6	1,159.7
Zone 7	78.4	42.9	121.9	20.5	0.0	0.0	41.2	304.9
Total	1,765.1	1,007.4	469.5	828.6	375.3**	843.3**	931.0	6,220.2

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

Alternative C differs from Alternative B in that additional lands would be allocated 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 101.6 acres on four parcels on Chatuge Reservoir and 4.0 acres on two parcels on Hiwassee Reservoir, for a total of 105.6 acres. 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) are listed in Table 2-8. 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 those under Alternative B.

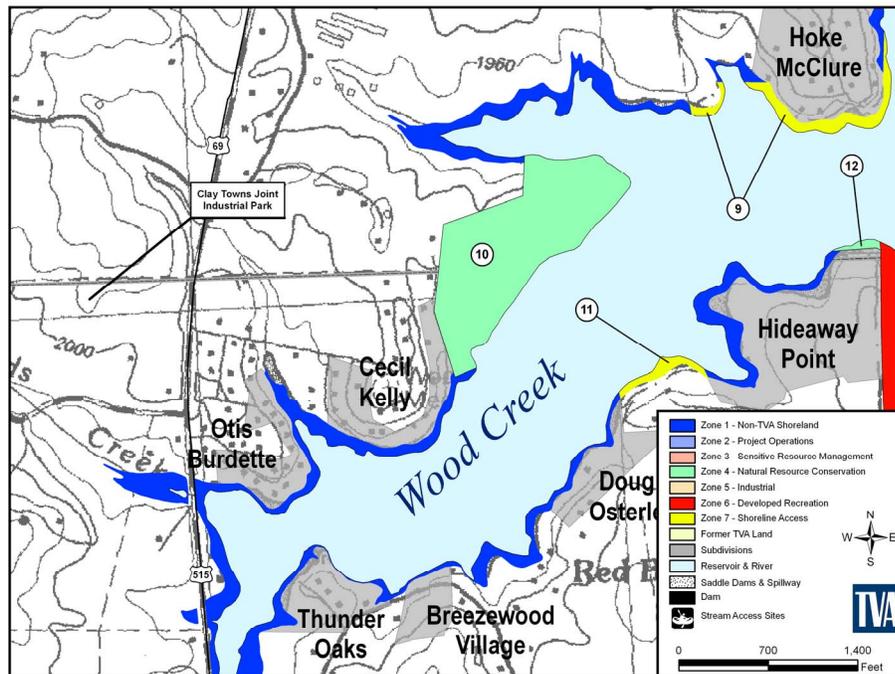


Figure 2-1. Chatuge Reservoir, Parcel 10

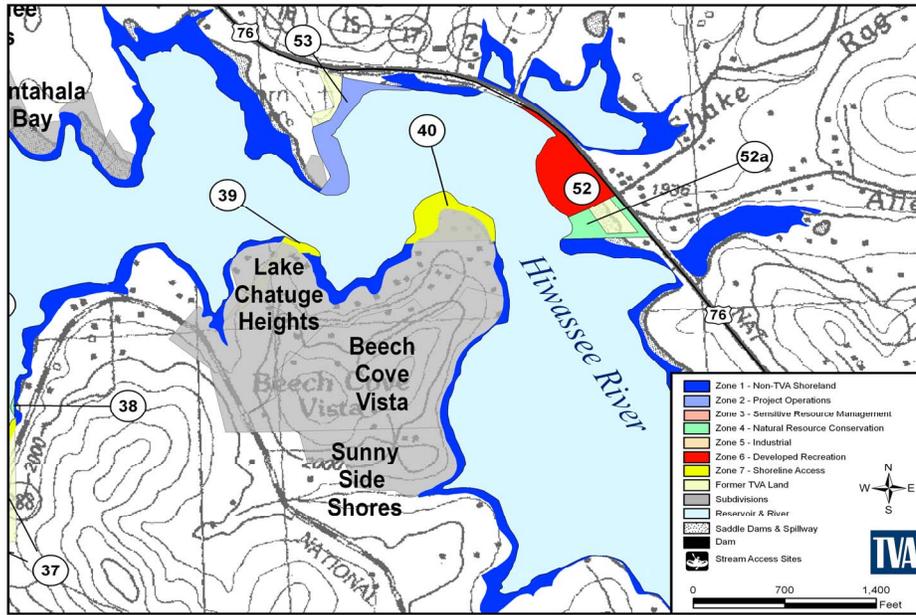


Figure 2-2. Chatuge Reservoir, Parcel 52

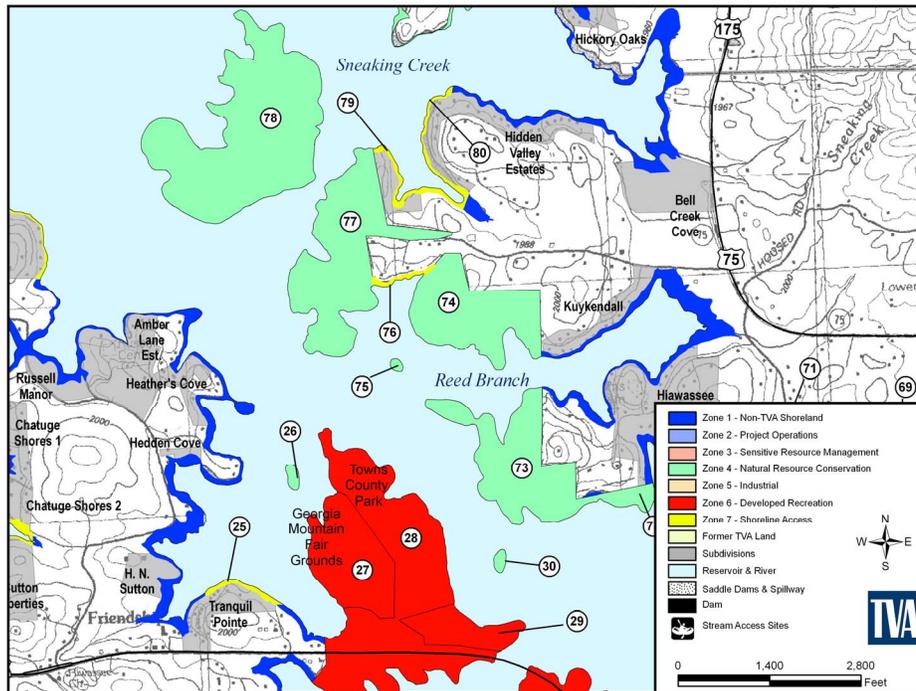


Figure 2-3. Chatuge Reservoir, Parcel 77

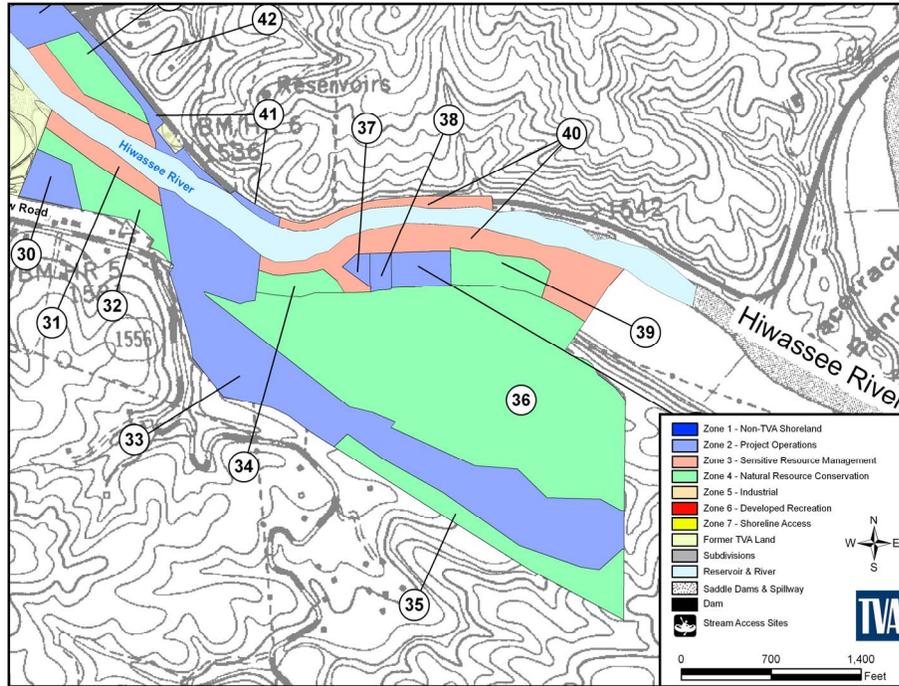


Figure 2-4. Hiwassee Reservoir, Parcel 34

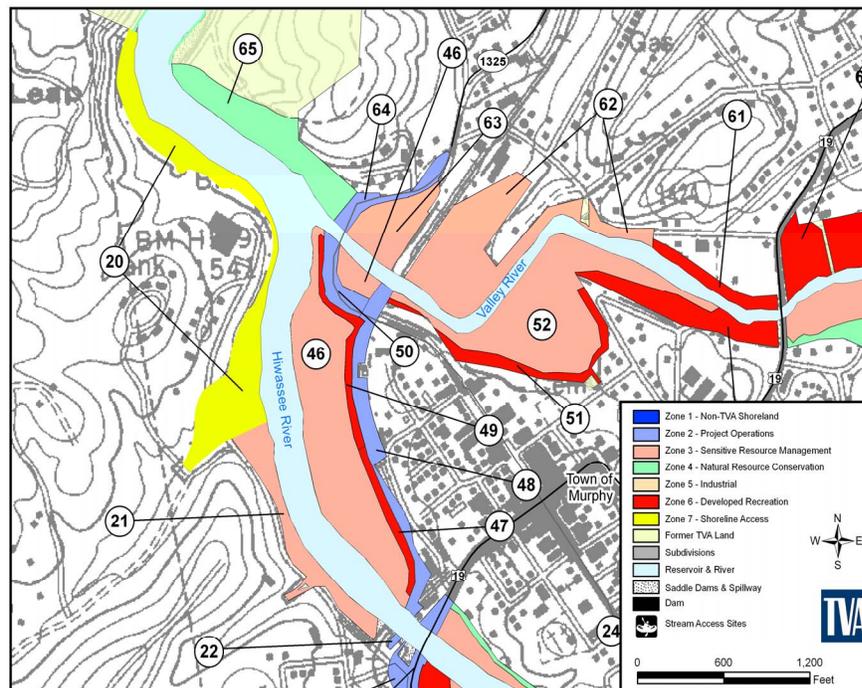


Figure 2-5. Hiwassee Reservoir, Parcel 49

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	Basis for Proposed Allocation Change
Chatuge Reservoir				
10	27.2	Zone 4	Zone 5	Request by BRMEMC for Industrial to allow for sale of parcel for private industrial use; request withdrawn
52	6.1	Zone 4	Zone 6	Request by Towns County, Ga., City of Hiawassee, Ga., and Georgia Department of Natural Resources for recreation area to include year-round boat-launching ramp, fishing piers, and trails
52a	1.9	Zone 4	Zone 6	
77	66.4	Zone 4	Zone 6	Request by Towns County, Ga., and City of Hiawassee, Ga., for development of a multiple-field sports complex and associated recreational facilities
Total	101.6			
Hiwassee Reservoir				
34	2.4	Zone 4	Zone 6	Request by Town of Murphy, N.C. for stream access site along Hiwassee River for wade fishing
49	1.6	Zone 4	Zone 6	Request by Town of Murphy, N.C. and Heritage Riverwalk Partners for extension of Heritage Riverwalk Trail
Total	4.0			

Under Alternative C, parcels requested by the public for a different, more development-oriented use were evaluated by TVA to determine if they were both capable of 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 D.

Under Alternative C, Parcel 10 on Chatuge Reservoir was allocated to Zone 5 for possible industrial use based on a request from BRMEMC, which had expressed an interest in locating an industrial water intake on the parcel. This intake would serve the nearby industrial park. However, during the preparation of the FEIS, BRMEMC withdrew the request for Zone 5 allocation. For purposes of consistency, TVA chose to retain Alternative C, including the Zone 5 allocation of Parcel 10, in the FEIS.

2.2.4 Alternative D – The Blended Alternative

Based on comments received on the draft EIS and other considerations, TVA developed a third action alternative, Alternative D, the Blended Alternative. This alternative is similar to Alternative B and Alternative C. However, this alternative does not involve the allocation of as many parcels for development-oriented uses as Alternative C. Specifically, the 6.1-acre Parcel 52 on Chatuge Reservoir would be allocated to Zone 6 for recreational use. This allocation is the same as proposed under Alternative C. However, under Alternative D, Parcel 52a, a 1.9-acre parcel adjacent to the 1.4 acres approved for disposal under Section 31 of the TVA Act (see Section 1.5.3) would be allocated to Zone 4 (Natural Resource Conservation). Following preparation of the DEIS, BRMEMC withdrew its request for allocation of Chatuge Parcel 10 for industrial use. Consequently, under the Blended Alternative, Parcel 10 would be allocated to Zone 4, rather than to Zone 5 (Industrial) as

under Alternative C. The 66.4-acre Parcel 77 on Chatuge would not be allocated for Developed Recreation (Zone 6) under the Blended Alternative; it would be allocated to Zone 4.

On Hiwassee Reservoir, Parcel 49 would be allocated to Zone 6 for developed recreation, as it was under Alternative C. However, under Alternative D, Parcel 34 would be allocated to Zone 4, its allocation under Alternative B. The land areas for each of the proposed zone allocations under the Blended Alternative are listed by reservoir in Table 2-9. Zone allocations for individual parcels are provided as Appendix F.

Table 2-9. Alternative D – Area by Proposed Allocation Zone by Reservoir

Allocation Zone	Acreage by Reservoir							Total (acres)
	Chatuge	Hiwassee	Blue Ridge	Nottely	Ocoees	Apalachia	Fontana	
Zone 2	381.2	366.4	293.1	443.3	375.3	760.5	404.8	3,024.6
Zone 3	16.7	114.7	12.2	0.0	0.0	0.0	0.0	143.6
Zone 4	868.5	441.2	27.7	270.3	**	**	50.4	1,658.1
Zone 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Zone 6	420.3	42.2	14.6	94.5	**	82.8	434.6	1,089.0
Zone 7	78.4.4	42.9	121.9	20.5	0.0	0.0	41.2	304.9
Total	1,765.1	1,007.4	469.5	828.6	375.3	843.3	931.0	6,220.2

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

Alternative D differs from Alternative B in that an additional 6.1 acres (i.e., Parcel 52) would be allocated to development-oriented uses (developed recreation) on Chatuge Reservoir. Similarly, on Hiwassee, the 1.6-acre Parcel 49 would be allocated for developed recreation. Under Alternative B, these parcels are designated as Zone 4. Excluding Parcel 52 on Chatuge and Parcel 49 on Hiwassee, allocations of all other parcels would be the same under Alternative B. As compared to Alternative C, Alternative D involves the allocation of two parcels for more developed uses (specifically, developed recreation), whereas Alternative C involves 6 parcels being allocated to Zones 5 or 6 (see Table 2-10).

Table 2-10. Allocation Differences Between Alternatives B, C, and D

Parcel Number	Area in Acres	Allocation by Alternative			Basis for Proposed Allocation Change
		Alt. B	Alt. C	Alt. D	
Chatuge Reservoir					
10	27.2	Zone 4	Zone 5	Zone 4	Request by BRMEMC for Industrial to allow for sale of parcel for private industrial use; request withdrawn
52	6.1	Zone 4	Zone 6	Zone 6	Request by Towns County, 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
52a	1.9	Zone 4	Zone 6	Zone 4	
77	66.4	Zone 4	Zone 6	Zone 4	Request by Towns County, Ga., and City of Hiwassee, Ga., for development of a multiple field sports complex and associated recreational facilities
Total	101.6				

Parcel Number	Area in Acres	Allocation by Alternative			Basis for Proposed Allocation Change
		Alt. B	Alt. C	Alt. D	
Hiwassee Reservoir					
34	2.4	Zone 4	Zone 6	Zone 4	Request by Town of Murphy, N.C., representatives for stream access site along Hiwassee River for wade fishing
49	1.6	Zone 4	Zone 6	Zone 6	Request by Town of Murphy, N.C., and Heritage Riverwalk Partners for extension of Heritage Riverwalk Trail
Total	4.0				

2.3 Comparison of Alternatives

Under Alternative A, the No Action/Forecast System Alternative, no parcels would be allocated, as they would be under the three action alternatives. Rather, the land use categories assigned to each parcel under the Forecast System would be retained (see Section 2.2.1). To allow a comparison of land use allocations among the four alternatives, those parcels that had been assigned a land use category (i.e., “planned”) under the Forecast System were consolidated and re-assigned the appropriate comparable zone allocation. Land use allocations for each reservoir are summarized by alternative in Table 2-11. The combined acreage for all parcels not assigned a category under the Forecast System is presented in the “Unplanned” row of Table 2-11 for each reservoir.

Table 2-11. Comparison of Allocations (in Acres and Percent of Total) by Alternative

Current Allocation Designation	Alternative A		Alternative B		Alternative C		Alternative D	
	acres	%	acres	%	acres	%	acres	%
Chatuge Reservoir								
Project Operations (Zone 2)	374.0	21.2	381.2	21.6	381.2	21.6	381.2	21.6
Sensitive Resource Management (Zone 3)	0.0	0.0	16.7	0.9	16.7	0.9	16.7	0.9
Natural Resource Conservation (Zone 4)	733.5	41.6	874.6	49.5	773.0	43.8	868.5	49.2
Industrial (Zone 5)	0.0	0.0	0.0	0.0	27.2	1.5	0.0	0.0
Developed Recreation (Zone 6)	370.0	21.0	414.2	23.5	488.6	27.7	420.3	23.8
Shoreline Access (Zone 7)	1.6	0.0	78.4	4.4	78.4	4.4	78.4	4.4
Unplanned	286.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0
Total	1,765.1		1,765.1		1,765.1		1,765.1	
Hiwassee Reservoir								
Project Operations (Zone 2)	366.4	36.4	366.4	36.4	366.4	36.4	366.4	36.4
Sensitive Resource Management (Zone 3)	0.0	0.0	114.7	11.4	114.7	11.4	114.7	11.4
Natural Resource Conservation (Zone 4)	471.2	46.8	442.8**	44.0	438.8	43.6	441.2	43.8
Industrial (Zone 5)	80.5	8.0	0.0	0.0	0.0	0.0	0.0	0.0
Developed Recreation (Zone 6)	38.9	3.9	40.6**	4.0	44.6**	4.4	42.2	4.2
Shoreline Access (Zone 7)	0.4	0.0	42.9	4.3	42.9	4.3	42.9	4.3
Unplanned	50.0**	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1,007.4		1,007.4		1,007.4		1,007.4	

Current Allocation Designation	Alternative A		Alternative B		Alternative C		Alternative D	
	acres	%	acres	%	acres	%	acres	%
Blue Ridge Reservoir								
Project Operations (Zone 2)	287.0	61.1	293.1	62.4	293.1	62.4	293.1	62.4
Sensitive Resource Management (Zone 3)	0.0	0.0	12.2	2.6	12.2	2.6	12.2	2.6
Natural Resource Conservation (Zone 4)	0.0	0.0	27.7**	5.9	27.7**	5.9	27.7**	5.9
Industrial (Zone 5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Developed Recreation (Zone 6)	10.5	2.2	14.6**	3.1	14.6**	3.1	14.6**	3.1
Shoreline Access (Zone 7)	0.0	0.0	121.9	26.0	121.9	26.0	121.9	26.0
Unplanned	172.0**	36.6	0.0	0.0	0.0	0.0	0.0	0.0
Total	469.5		469.5		469.5		469.5	
Nottely Reservoir								
Project Operations (Zone 2)	443.3	53.5	443.3	53.5	443.3	53.5	443.3	53.5
Sensitive Resource Management (Zone 3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Natural Resource Conservation (Zone 4)	123.2	14.8	270.3	32.6	270.3	32.6	270.3	32.6
Industrial (Zone 5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Developed Recreation (Zone 6)	91.9	11.1	94.5	11.4	94.5	11.4	94.5	11.4
Shoreline Access (Zone 7)	0.0	0.0	20.5	2.4	20.5	2.4	20.5	2.4
Unplanned	170.2	20.5	0.0	0.0	0.0	0.0	0.0	0.0
Total	828.6		828.6		828.6		828.6	
Ocoee Reservoirs								
Project Operations (Zone 2)	375.3	100	375.3	100.0	375.3	100.0	375.3	100.0
Sensitive Resource Management (Zone 3)	0/0	0/0	0.0	0.0	0.0	0.0	0.0	0
Natural Resource Conservation (Zone 4)	0.0	0.0	**	<0.1	**	<0.1	**	<0.1
Industrial (Zone 5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Developed Recreation (Zone 6)	0.0	0.0	**	<0.1	**	<0.1	**	<0.1
Shoreline Access (Zone 7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unplanned	**	<0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	375.3		375.3		375.3		375.3	
Apalachia Reservoir								
Project Operations (Zone 2)	760.5	90.2	760.5	90.2	760.5	90.2	760.5	90.2
Sensitive Resource Management (Zone 3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Natural Resource Conservation (Zone 4)	0.0	0.0	**	<0.1	**	<0.1	**	<0.1
Industrial (Zone 5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Developed Recreation (Zone 6)	82.8	9.8	82.8	9.8	82.8	9.8	82.8	9.8
Shoreline Access (Zone 7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unplanned	**	<0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	843.3		843.3		843.3		843.3	

Mountain Reservoirs Land Management Plan

Current Allocation Designation	Alternative A		Alternative B		Alternative C		Alternative D	
	acres	%	acres	%	acres	%	acres	%
Fontana Reservoir								
Project Operations (Zone 2)	0.0	0.0	404.8	43.4	404.8	43.4	404.8	43.4
Sensitive Resource Management (Zone 3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Natural Resource Conservation (Zone 4)	0.0	0.0	50.4**	5.4	50.4**	5.4	50.4**	5.4
Industrial (Zone 5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Developed Recreation (Zone 6)	0.0	0.0	434.6**	46.7	434.6**	46.7	434.6**	46.7
Shoreline Access (Zone 7)	0.0	0.0	41.2	4.4	41.2	4.4	41.2	4.4
Unplanned	931.0**	100	0.0	0.0	0.0	0.0	0.0	0.0
Total	931.0		931.0		931.0		931.0	
TOTALS (ALL RESERVOIRS)								
Project Operations (Zone 2)	2,606.5	41.9	3,024.6	48.6	3,024.6	48.6	3,024.6	48.6
Sensitive Resource Management (Zone 3)	0.0	0.0	143.6	2.3	143.6	2.3	143.6	2.3
Natural Resource Conservation (Zone 4)	1,327.9	21.4	1,665.8	26.8	1,560.2	25.1	1,658.1	26.7
Industrial (Zone 5)	80.5	1.3	0	0.0	27.2	0.4	0	0
Developed Recreation (Zone 6)	594.1	9.6	1,081.3	17.4	1,159.7	18.6	1,089.0	17.5
Shoreline Access (Zone 7)	2.0	0.0	304.9	4.9	304.9	4.9	304.9	4.9
Unplanned	1,609.2	25.9	0.0	0.0	0.0	0.0	0.0	0.0
Total	6,220.2		6,220.2		6,220.2		6,220.2	

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

Under Alternative A, the No Action/Forecast System Alternative, TVA would not have a management plan for 1,609 acres (26 percent) of its land on the mountain reservoirs, including all Fontana Reservoir lands. Under Alternative A, 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 under this alternative for Project Operations (42 percent) and Recreation (10 percent) than would be allocated under Alternative B, C, or D. Under Alternative A, a smaller total percentage of planned lands is allocated for Natural Resource Conservation than would be allocated under Alternative B, C, or D. Approximately 80 acres were forecast for industrial use on Hiwassee Reservoir and are allocated to Zone 5 under Alternative A. However, these two parcels are currently undeveloped, and development is unlikely because of the steepness of the sites. Thus, because there would be no changes in land use allocations, changes in land use from the current situation under Alternative A are unlikely. As stated in Section 2.2, any proposed activity on public land is subject to TVA approval following an appropriate environmental review. TVA could impose necessary mitigative measures to avoid adverse effects or reduce the severity of such effects as conditions of approval.

The Forecast System is not comprehensive, nor does not align with TVA's SMP and Land Policy. Therefore, Alternative A does not represent an optimal plan by which TVA would continue to manage the approximately 4,611 acres of previously planned TVA land on the mountain reservoirs.

Under Alternative B, the Proposed Land Use Plan Alternative, parcels would be allocated to one of seven zones (see Table 2-1). Land use zone allocations were based on committed land uses, existing conditions, and protection of sensitive resources. About one fourth of the TVA land on the nine mountain reservoirs would be used for natural resource conservation purposes by allocating approximately 1,665.8 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 143.6 acres (2.3 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). Under Alternative B, Zone 2 (Project Operations) properties would constitute 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 78.4 acres (for a total of 1,159.7 acres or about 19 percent) would be allocated to Zone 6 (Developed Recreation) as compared to Alternative B. The parcels for which Alternative C allocations differ from Alternative B allocations are located on Chatuge Reservoir (101.6 acres) and Hiwassee Reservoir (4.0 acres). Adoption and implementation of Alternative C would decrease the total acreage allocated to Natural Resource Conservation (Zone 4) by 105.6 acres as compared to Alternative B. Allocations under Alternatives B and C would be the same for the remaining lands on Chatuge and Hiwassee reservoirs and for all lands on the other reservoirs.

Under Alternative D, the Blended Alternative, land use allocations would be very similar to those under Alternative B, except for two parcels. These two parcels, the 6.1-acre Parcel 52 on Chatuge Reservoir and the 1.6-acre Parcel 49 on Hiwassee, would be allocated to Zone 6 (Developed Recreation). As with Alternative B, no allocations to Zone 5 (Industrial) would occur under this alternative. The amount of land allocated to Zone 2 (Project Operations), Zone 3 (Sensitive Resource Management), Zone 4 (Natural Resource Conservation), and Zone 7 (Shoreline Access) under Alternative D would be that same as under Alternative B.

2.4. Impacts Summary

The summary of potential environmental impacts for Chatuge and Hiwassee reservoirs is presented in Table 2-12. The summary of environmental impacts for Blue Ridge, Nottely, the Ocoees, Apalachia, and Fontana reservoirs is presented in Table 2-13.

Table 2-12. Summary of Environmental Impacts by Alternative for Chatuge and Hiwassee Reservoirs

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Proposed Modified Land Use Plan	Alternative D Blended Alternative
Land Use	<p><u>Chatuge Reservoir</u> Would not likely 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 Reservoirs</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 Reservoirs</u> Would result in change from an undeveloped land use to a developed industrial or recreational use on four parcels (Parcels 10, 52, 52a, and 77) on Chatuge Reservoir and two parcels (Parcels 34 and 49) on Hiwassee Reservoir</p> <p>Zone 4 allocations would be 105.6 acres less than under Alternative B</p> <p>No significant direct or indirect impacts expected</p> <p>Minor insignificant prime farmland impacts</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> Would result in change from an undeveloped land use to a developed recreational use on Parcel 52 on Chatuge Reservoir and Parcel 49 on Hiwassee Reservoir</p> <p>Zone 4 allocations would be 7.7 acres less than under Alternative B</p> <p>No significant direct or indirect impacts expected</p> <p>Minor insignificant prime farmland impacts</p>
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 (74.4 acres) over Alternative B 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 (27.2 acres)</p> <p><u>Hiwassee Reservoir</u> Additional Zone 6 allocations (4.0 acres) would allow for development of new walking trails and a new river access site that would provide for increased dispersed recreation opportunities</p>	<p><u>Chatuge Reservoir</u> Additional Zone 6 allocation of Parcel 52 (6.1 acres) would increase developed recreation facilities but decrease dispersed recreation opportunities</p> <p><u>Hiwassee Reservoir</u> Additional Zone 6 allocation of Parcel 49 (1.6 acres) for walking trail would provide increased dispersed recreation opportunities.</p>

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Proposed Modified Land Use Plan	Alternative D Blended Alternative
Terrestrial Ecology - Plants	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>No changes in land use likely to occur on parcels containing rare plant communities</p> <p>Impacts to plant communities would be insignificant</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Impacts similar to those under Alternative A</p> <p>Allocating several parcels to Zone 3 would result in long-term beneficial effects to plants</p> <p><u>Hiwassee Reservoir</u></p> <p>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></p> <p>Impacts similar to Alternative B except for five parcels</p> <p><u>Chatuge Reservoir</u></p> <p>Parcel 10 - Destruction of old-growth forest; potential spread of invasive species</p> <p>Insignificant impacts to common plant communities from development of Parcel 52 for recreation</p> <p>Potential impacts to common plant communities from recreational development of Parcel 77 would be regionally insignificant</p> <p><u>Hiwassee Reservoir</u></p> <p>Insignificant impacts to common plant communities from development of two parcels for recreation</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Impacts similar to Alternative B except for two parcels</p> <p><u>Chatuge Reservoir</u></p> <p>Insignificant impacts to plant communities from development of Parcel 52 for recreation</p> <p><u>Hiwassee Reservoir</u></p> <p>Insignificant impacts to plant communities from development of Parcel 49 for recreation</p>
Wildlife	<p><u>Chatuge Reservoir</u></p> <p>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></p> <p>Possible wildlife impacts from parcels allocated for industrial development</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Allocations reflect existing land use and would not result in adverse cumulative impacts to wildlife and habitat</p> <p>Allocating several parcels to Zone 3 would enhance management of wildlife resources</p>	<p><u>Chatuge Reservoir</u></p> <p>Parcel 10 – negative effects to wildlife; however, regionally would be minor; Parcel 52 has limited wildlife value; impacts to wildlife would be minor; development of Parcel 77 would have negative local impacts to wildlife</p> <p><u>Hiwassee Reservoir</u></p> <p>Insignificant impacts to wildlife and wildlife habitat due to recreational development on Parcels 34 and 49</p>	<p><u>Chatuge Reservoir</u></p> <p>Parcel 52 has limited wildlife value; impacts to wildlife would be minor</p> <p><u>Hiwassee Reservoir</u></p> <p>Insignificant impacts to wildlife and wildlife habitat due to recreational development on Parcel 49</p>

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Proposed Modified Land Use Plan	Alternative D Blended Alternative
Threatened and Endangered Species	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>No direct impacts to federally listed plant, terrestrial animal, or aquatic animal species are expected</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>No adverse direct, indirect, or cumulative impacts to federally listed species are expected</p> <p>Parcels containing listed plants or animals would be allocated to Zone 3</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Potential loss of a population of American columbo on Parcel 10. No adverse affects to listed terrestrial animals are expected</p> <p>No federally or state-listed aquatic animal species are known to occur near any parcels proposed for development under Alternative C</p> <p>Parcels containing listed plants or animals would be allocated to Zone 3</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>No adverse affects on listed plants or terrestrial animals are expected</p> <p>No federally or state-listed aquatic animal species are known to occur near either parcel proposed for development under Alternative D</p> <p>Parcels containing listed plants or animals would be allocated to Zone 3</p>
Wetlands	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>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 Reservoirs</u></p> <p>No direct impacts</p> <p>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 expected</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Parcels containing wetlands would be allocated to Zone 3</p> <p>No significant adverse effects to wetlands associated with Chatuge Parcels 10, 52, or 77 or Hiwassee Parcels 34 or 49</p> <p>No significant cumulative impacts to wetlands expected</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Parcels containing wetlands would be allocated to Zone 3</p> <p>No wetlands associated with Chatuge Parcel 52 or Hiwassee Parcel 49</p> <p>No significant cumulative impacts to wetlands expected</p>
Floodplains	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Insignificant floodplain impacts</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Floodplain impacts less than Alternative A</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Floodplain impacts somewhat greater than Alternative B because more parcels allocated to Developed Recreation and Industrial; overall impacts insignificant</p>	<p><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Floodplain impacts somewhat greater than Alternative B because two parcels would be allocated to Developed Recreation; overall impacts insignificant</p>

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Proposed Modified Land Use Plan	Alternative D Blended Alternative
Archaeological Resources	<p align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Archaeological resources would be avoided or protected when complying with <i>National Historic Preservation Act</i> (NHPA) and <i>Archaeological Resources Protection Act</i> (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 align="center"><u>Chatuge and Hiwassee Reservoirs</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>	<p align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Development of the two 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 align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Potential effects to historic structures would be insignificant</p>	<p align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Potential effects to historic structures would be insignificant</p>	<p align="center"><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>	<p align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Potential effects to historic structures from development of Chatuge Parcels 10 and Hiwassee Parcel 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 align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>No TVA natural areas occur on or adjacent to the five parcels proposed for development</p>	<p align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>No TVA natural areas occur on or adjacent to either of the two parcels proposed for recreational development</p>
Visual Resources	<p align="center"><u>Chatuge Reservoir</u></p> <p>No significant changes in existing land use expected; recreational development would be limited to existing developed areas; no significant visual impacts are expected</p> <p align="center"><u>Hiwassee Reservoir</u></p> <p>Potential for adverse visual impacts if the 2 parcels allocated for Industrial are developed</p>	<p align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Scenic integrity would remain moderate or higher; greater protection to visual resources than under Alternative A</p>	<p align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Minor adverse impact to visual resources</p>	<p align="center"><u>Chatuge and Hiwassee Reservoirs</u></p> <p>Minor adverse impact to visual resources</p>

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Proposed Modified Land Use Plan	Alternative D Blended Alternative
Water Quality and Aquatic Ecology	<p><u>Chatuge Reservoir</u> Significant land use changes from undeveloped to developed use are unlikely; therefore, no significant impacts expected.</p> <p><u>Hiwassee Reservoir</u> Potential impacts if the two parcels on Hiwassee were developed for industrial use; insignificant cumulative impacts to water quality and aquatic ecology</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> No parcels changing from undeveloped to developed land use allocation.</p> <p>Insignificant cumulative impacts to water quality and aquatic ecology</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> 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>	<p><u>Chatuge and Hiwassee Reservoirs</u> Recreational 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>
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 Reservoirs</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>Potential increase in air pollutants over Alternative B</p> <p><u>Hiwassee Reservoir</u> Insignificant impacts to local air quality</p>	<p><u>Chatuge and Hiwassee Reservoirs</u> No industrial allocations</p> <p>Decreased potential for air pollutants compared to Alternative A</p> <p>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 Reservoirs</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>	<p><u>Chatuge Reservoir</u> Potential for localized noise impacts from Developed Recreation</p> <p><u>Hiwassee Reservoir</u> Insignificant impacts</p>

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternative B Proposed Land Use Plan	Alternative C Proposed Modified Land Use Plan	Alternative D Blended Alternative
Socio-economics	<u>Chatuge Reservoir</u> No change from current situation <u>Hiwassee Reservoir</u> Potential for new industry and new jobs on Hiwassee Reservoir	<u>Chatuge and Hiwassee Reservoirs</u> Impacts are expected to be insignificant	<u>Chatuge Reservoir</u> Potential for new jobs from industrial development of Chatuge Parcel 10 <u>Hiwassee Reservoir</u> Insignificant impacts	<u>Chatuge and Hiwassee Reservoirs</u> Impacts are expected to be insignificant

Table 2-13. Summary of Environmental Impacts by Alternative for Blue Ridge, Nottely, the Ocoees, Apalachia, and Fontana Reservoirs

Potential Resources Impacted	Alternative A No Action/Forecast System	Alternatives B, C, and D
Land Use	<p><u>All Reservoirs</u> Would not result in any parcels changing from an undeveloped land use to a developed land use allocation</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>
Recreation	<p><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</p>	
Terrestrial Ecology - Plants	<p><u>All Reservoirs</u> Insignificant impacts to terrestrial plant communities</p>	<p><u>All Reservoirs</u> Insignificant impacts to terrestrial plant communities</p> <p>Sensitive resource allocation (Zone 3) should add greater protection</p>
Wildlife	<p><u>All Reservoirs</u> Insignificant impacts to wildlife communities</p>	<p><u>All Reservoirs</u> Insignificant impacts to wildlife</p> <p>Sensitive resource allocation (Zone 3) would afford greater protection</p>
Endangered and Threatened Species	<p><u>All Reservoirs</u> No adverse direct, indirect, or cumulative impacts to federally listed species are expected</p>	
Wetlands	<p><u>All Reservoirs</u> No adverse effects to wetlands</p>	
Floodplains	<p><u>All Reservoirs</u> No adverse effects to floodplains</p>	
Archaeological Resources	<p><u>All Reservoirs</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</p>	
Historic Structures	<p><u>All Reservoirs</u> Potential effects to historic structures would be insignificant</p>	
Managed Areas	<p><u>All Reservoirs</u> No adverse effects to TVA or other managed areas</p>	
Visual Resources	<p><u>All Reservoirs</u> Scenic integrity would remain moderate or higher</p>	
Aquatic Ecology and Water Quality	<p><u>All Reservoirs</u> Insignificant cumulative impacts to water quality and aquatic ecology</p>	
Air Quality and Noise	<p><u>All Reservoirs</u> Insignificant Impacts</p>	
Socioeconomics	<p><u>All Reservoirs</u> No change from current situation</p>	

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. Implementation of Alternative B, C, or D would establish this new land plan. Implementation of Alternative D would afford protection to sensitive resources and offer additional informal and developed recreation opportunities. Under this alternative, land use allocation changes would occur on less than 8 acres of the 6,220 acres on the mountain reservoirs properties. No significant adverse environmental effects are expected if Alternative D were adopted. Thus, TVA's preferred alternative is Alternative D, the Blended Alternative.

Under Alternative B, eight fewer acres would be allocated to development-oriented uses than under Alternative D. Given the scope of the proposal under consideration and these minor allocation differences, Alternatives B and D are virtually indistinguishable in terms of their potential environmental effects.

2.6 Summary of TVA Commitments and Proposed Mitigation Measures

Mitigation measures are actions that could be taken to avoid, minimize, rectify, offset, reduce, or compensate for adverse impacts to the environment. In considering requests for use of TVA lands allocated under the MRLMP, TVA will implement the following commitments and mitigation measures.

- TVA has executed a programmatic agreement (PA) with the Tennessee State Historic Preservation Officer (SHPO) for RLMPs and will execute separate PAs with the Georgia and North Carolina SHPOs for the identification, evaluation, and treatment of all cultural resources adversely affected by future proposed uses of TVA lands planned in RLMPs. All activities will be conducted in accordance with the stipulations defined in these PAs. Until these PAs are executed, TVA will incorporate the phased identification, evaluation, and treatment procedure to effectively mitigate adverse effects to historic properties as required by Section 106 of the NHPA.
- Prior to approving any use of land on the mountain reservoirs, TVA would conduct an appropriate level of environmental review to determine the potential environmental effects of the proposed use.
 - In the event that a land use request involves industrial development, the subject environmental review will determine and document the extent of expected air quality impacts. Should the requested parcel be located in or potentially affect a nonattainment area for ozone or PM_{2.5}, TVA shall 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.
 - In the event that a land use request is determined to have the potential to affect summer roost habitat for Indiana bats, the subject environmental review will include surveys to determine the presence of Indiana bats and the suitability of habitat for Indiana bats.

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- As necessary, based on the findings of the environmental review, TVA may require the implementation of appropriate mitigative measures, including BMPs, as a condition of approval for land use on the mountain reservoir properties.