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NORTHEASTERN TRIBUTARY RESERVOIRS LAND MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

VOLUME III

Boone Reservoir

PREPARED BY:
TENNESSEE VALLEY AUTHORITY

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ACRONYMS AND ABBREVIATIONS

EO(s)	Executive Order(s)
EIS	Environmental Impact Statement
ESA	*Endangered Species Act*
kV	Kilovolt
LAC	Limits of Acceptable Change
MSC	Maximum Shoreline Contour
msl	mean sea level
NEPA	*National Environmental Policy Act*
NPS	National Park Service
NRHP	National Register of Historic Places
NTRLMP	Northeastern Tributary Reservoirs Land Management Plan
NTRs	Northeastern Tributary Reservoirs
RFAI	Reservoir Fish Assemblage Index
RLMP	Reservoir Land Management Plan
RM	River Mile
RVSMP	Reservoir Vital Signs Monitoring Program
SFI	Sport Fishing Index
SMP	Shoreline Management Policy
TDEC	Tennessee Department of Environment and Conservation
TNC	The Nature Conservancy
TWRA	Tennessee Wildlife Resources Agency
TVA	Tennessee Valley Authority
USA	United States of America
USACE	U.S. Army Corps of Engineers
USDA	U.S Department of Agriculture
USFS	U.S. Forest Service

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1.0 INTRODUCTION

The Boone Reservoir Land Management Plan is a study of the Tennessee Valley Authority (TVA)-managed public land surrounding Boone Reservoir. It is one of five reservoir land management plans (RLMPs) associated with an environmental impact statement (EIS) for the northeastern tributary reservoirs (NTRs). The EIS, Volume I, contains information on the scoping process, allocation process, alternatives, comparison of the alternatives, and impact statement. In addition, the EIS contains a summary, an index, and appendices.

This document provides background information about TVA land management throughout its history and specifically TVA management of public land surrounding Boone Reservoir. It explains the purpose of this RLMP and describes the process used in its development. The RLMP includes the Planning Process, which list the objectives around which the RLMP was developed and a summary of the allocation process. The Boone Reservoir Regional Overview describes the natural and social development of the reservoir and the surrounding area. The Parcel Descriptions include total acreage and parcel descriptions documenting land management allocations. The allocation map is stored in the pocket on the back cover of this RLMP.

1.1. Background

TVA has been charged by Congress with improving navigation, controlling floods, providing for the proper use of marginal lands, providing for industrial development, and providing power at rates as low as is feasible, all for the general purpose of fostering the physical, economic, and social development of the Tennessee Valley region. The lands that TVA holds as steward in the name of the United States of America (USA) are some of the most important resources of the region. These lands have provided the foundation for the dams and reservoirs that protect the region from flooding and secure for its residents the benefits of a navigable waterway and low-cost hydroelectricity.

TVA's public lands are the sites for its power generating system and arteries for delivering power to those that need it. Many of the region's parks, recreation areas, and wildlife refuges that are so important for the region's quality of life are on lands TVA made available. TVA public lands often have been the catalyst for public and private economic development that supports all of these activities.

The USA, through TVA, originally acquired approximately 1.3 million acres of land in the Tennessee River Valley. The construction and operation of the reservoir system inundated approximately 470,000 acres with water. Approximately 508,000 acres have been transferred to other federal and state agencies for public uses or sold for private uses. The USA owns about 293,000 acres that TVA manages pursuant to the *TVA Act of 1933.*

TVA originally acquired a total of 10,952 acres of land above normal summer pool for the seven NTRs and associated hydroelectric generating facilities. Over the years, TVA has transferred the majority of this land to other public agencies, primarily the U.S. Forest

Service (USFS), or sold it to various public and private entities. TVA presently manages a total of 4,933 acres of land on these reservoirs that is the subject of the Northeastern Tributary Reservoirs Land Management Plan (NTRLMP).

As stewards of this important resource, TVA's policy is to manage its lands to protect the integrated operation of the TVA reservoir and power systems, to provide for appropriate public use and enjoyment of the reservoir system, and to provide for continuing economic growth in the Tennessee Valley region. TVA recognizes that historical land transfers have contributed substantially to meeting these multipurpose objectives, and it is TVA's policy to preserve reservoir lands remaining in public ownership under its control except in rare instances when the benefits to the public will be so significant that transferring the land is justified.

1.2. Purpose

TVA's Land Policy (Volume I, Appendix A) was approved by the TVA Board of Directors on November 30, 2006. This policy governs how land is planned, including whether it is disposed of or retained. In order to systematically manage TVA public land around its reservoirs, TVA develops RLMPs, which seek to integrate land and water program goals, provide for the optimum public benefit, and balance competing and sometimes conflicting resource uses.

By providing a clear statement of how TVA intends to manage land and by identifying each parcel for specific purposes, TVA hopes to facilitate decision-making for the use of the public land in its care. Land planning guides TVA in the management of resources and property administration decisions on land under its control. RLMPs are approved by the TVA Board of Directors and adopted as agency policy, providing for long-term land stewardship and accomplishment of TVA responsibilities under the *TVA Act*.

TVA's integrated resource management approach focuses on balancing flood control, navigation, power generation, water quality, recreation, and land use needs to obtain the optimum benefit for the whole system. Land planning supports TVA's vision of generating prosperity in the Valley by addressing the goals of supporting a thriving river system and stimulating economic growth. To that end, the NTRLMP provides a framework for deciding the optimum use of TVA public land and promotes the efficient operation of the TVA reservoir system.

This RLMP will guide resource management and administration decisions on approximately 880 acres around Boone Reservoir, which are publicly owned and managed by TVA. It identifies the most suitable uses for 44 parcels of project land by providing areas for Project Operations, Sensitive Resource Management, Natural Resource Conservation, Industrial, Recreation, and Shoreline Access. The 880 acres of TVA public land account for approximately 23 miles of reservoir shoreline.

2.0 PLANNING PROCESS

Under the *TVA Act of 1933*, TVA is responsible for the control and use of the Tennessee River and its tributaries and the development and use of the resources in the Tennessee Valley. TVA has managed the public reservoir land under its stewardship to meet a wide range of regional and local resource development needs and to improve the quality of life, both within specific reservoir areas and throughout the Tennessee Valley. Reservoir properties, together with adjoining private lands, have been used for public parks, industrial development, commercial recreation, residential development, tourism development, and forest and wildlife management areas. These areas also meet a variety of other needs associated with local communities.

An increasing demand for and use of reservoir land sometimes results in conflicting and uneconomical land use patterns between public and private use. These competing interests and development pressures, coupled with today's environmental awareness, underscore the necessity for a planned approach to the management of reservoir land and related resources.

The land planning process is currently conducted under the *National Environmental Policy Act* (NEPA) and its implementing regulations, which require environmental review of federal actions having the potential to impact the environment. Land planning supports state and federal goals to be environmentally responsible, stakeholder-driven, and growth-oriented, by providing a framework for deciding the best use of TVA-managed public land.

The reservoir land management planning process allocates TVA fee-owned land to seven defined land use zones. The term *land use zone* refers to a descriptive set of criteria given to distinct areas of land based on location, features, and characteristics (see Table 1 for land use zone definitions). The process includes resource data, computer analysis, and input from the public, other agencies, and knowledgeable TVA staff. A land use zone provides a clear statement of how TVA will manage public land and identifies land for specific uses; an RLMP minimizes conflicting land uses and makes it easier to handle requests for use of public land.

This RLMP was developed by a team of land managers and technical experts from TVA, knowledgeable about the reservoir and its resources. The planning team made land use decisions by integrating public needs, environmental conditions, economic benefits, state and federal policies, and the original congressional intent of the South Holston Reservoir project.

Table 1. Land Use Zone Definitions

Zone		Definition
1	**Non-TVA Shoreland**	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: • ***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**	All TVA reservoir land currently used for TVA operations and public works projects, including: • ***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.* • ***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**	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: • TVA-designated sites with potentially ***significant archaeological resources***.

Zone		Definition
		• TVA public land with ***sites/structures listed in or eligible for listing in 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. • ***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**	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: • ***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.

Zone		Definition
		• ***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**	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.** Areas included are: • ***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. • ***Land planned for any of the above uses in the future.*** In some cases, TVA land allocated to industrial use would be declared surplus and sold at public auction. Types of development that can occur on this land are: • **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). • **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**	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:

Zone		Definition
		Water Access—Small parcels of land, generally less than 10 acres, and typically shoreline areas conveyed to public agencies for public access. **Public**—More recreational opportunities, some facilities, more than a parking lot and boat ramp. This includes areas conveyed for public recreation. **Commercial**—Property suitable and capable to support commercial water-based operations. This includes areas conveyed for commercial recreation. Land managed for concentrated, active recreational activities that require capital improvement and maintenance, including: • ***TVA public land under easement, lease, or license to other agencies/individuals*** for recreational purposes. • ***TVA public land fronting land owned by other agencies/individuals*** for recreational purposes. • ***TVA public land*** developed for recreational purposes, such as campgrounds, day use areas, etc. • ***Land planned for any of the above uses in the future.*** Types of development that can occur on this land are: • ***Water access***, 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. • ***Public Recreation***—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. 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. 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. • ***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

Zone		Definition
		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**	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: • ***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.***

2.1. Planning Goals

This RLMP focuses on TVA's mission by setting several goals:

Goal 1: Apply a systematic method of evaluating and identifying the most suitable uses of TVA public lands using resource data, stakeholder input, suitability and capability analyses, and TVA staff input.

Goal 2: Identify land use zone allocations to optimize public benefit and balance competing demands for the use of public lands.

Goal 3: Identify land use zone allocations to support TVA's broad regional resource development mission. TVA reservoir properties are managed to provide multiple public benefits, including recreation, conservation, and economic development.

Goal 4: Provide a clear process by which TVA will respond to requests for use of TVA public land.

Goal 5: Comply with federal regulations and executive orders (EOs).

Goal 6: Ensure the protection of significant resources, including threatened and endangered species, cultural resources, wetlands, unique habitats, natural areas, water quality, and the visual character of the reservoir.

Goal 7: Provide a mechanism that allows local, state, and federal infrastructure projects when the use is compatible with the zone allocation.

2.2. Allocation Process

This plan will update the 1999 Boone Reservoir Land Management Plan (1999 Plan), parcels, and parcel descriptions. Some parcels in the 1999 Plan may have changed in acreage, parcel number, and zone allocation due to current land uses, existence of sensitive resources, and improved geo-referenced mapping capabilities.

Prior to the allocation of a parcel, the characteristics of each parcel (i.e., location and existing conditions) were reviewed by the TVA planning team. TVA also reviewed deeds of selected tracts previously sold to private entities to identify existing shoreline access rights. In addition, the planning team honored all existing commitments—that is, existing leases, licenses, and easements. No sensitive resources surveys were conducted on committed land. The need for field reviews for uncommitted parcels was determined based on data from the TVA Natural Heritage database. Land with identified sensitive resources was placed in the Sensitive Resource Management Zone. The remaining parcels were allocated based on reservoir planning objectives and public input. Decisions were made by consensus among the TVA planning team. During the allocation process, the planning team allocated the reservoir land to one of seven planning zones using the standard zone definitions for all TVA reservoirs (Table 1).

2.3. Committed Land

Land currently committed to a specific use was allocated to that current use unless there was 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.

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 851 acres (97 percent) of the TVA land surrounding Boone Reservoir are committed due to existing TVA or other public infrastructure projects. Agricultural licenses are not considered as committed uses because they are an interim use of TVA land.

In the allocation process, if sensitive resources were identified on a committed parcel, that parcel remained 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.

2.4. Uncommitted Land

Approximately 29 acres (3 percent) of the TVA land surrounding Boone Reservoir are uncommitted. 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.

2.5. Property Administration

The Boone RLMP identifies the suitable uses for each tract of TVA-managed land around the Boone reservoir, consistent with TVA policy and guidelines and applicable laws and regulations. As administrators of TVA land, the Holston-Cherokee-Douglas Watershed Team will use the Boone RLMP, Volume III, and the NTRLMP, Volume I, 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 NTRs should be made to the TVA Environmental Information Center at 1-800-882-5263.

Pursuant to the TVA Land Policy (Volume I, Appendix A), 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 Shoreline Management Policy (SMP).

The SMP is based on the Shoreline Management Initiative, by which TVA, with public input, examined its system for granting permits for docks and other shoreline development. The primary goal was to establish a Valleywide policy that would improve the protection of shoreline and aquatic resources while allowing reasonable access to the water.

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 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 policies and the allocated use, and otherwise acceptable to TVA, will be reviewed in accordance with NEPA and must conform to the requirements of other applicable environmental regulations and other legal authorities.

3.0 BOONE RESERVOIR REGIONAL OVERVIEW

Within the portion of the Tennessee River Valley known as the Upper Holston area are seven reservoirs: Beaver Creek, Boone, Clear Creek, Fort Patrick Henry, South Holston, Watauga, and Wilbur. Beaver Creek, Boone, Clear Creek, Fort Patrick Henry, and South Holston reservoirs, and a small portion of Wilbur Reservoir, are located in the Ridge and Valley ecoregion of Tennessee and Virginia. This region occurs between the Blue Ridge Mountains on the east and the Cumberland Plateau on the west. The region is a relatively low-lying area made of roughly parallel ridges and valleys that were formed through extreme folding and faulting events in past geologic time (Griffith et al. 1998).

3.1. The Past

According to archaeologists, humans first occupied this land around 12,000 years ago. This early population was initially nomadic, but later developed a seasonal subsistence based on the region's plant and animal resources. These abundant natural resources provided a diverse source of food, which included deer, nuts, fruits, and a variety of small animals, fish, and shellfish. Between 8000 B.C. and about 500 B.C., there were signs of population growth, settlement, and interregional trade. By 500 B.C. stable villages had developed, which are evidenced by cultivated plants, dwelling structures, pottery, and burial mounds. By A.D. 1500, there is evidence of an increasingly sophisticated society, with town centers, fortified villages, an elite class, as well as smaller and scattered hamlets or communities. This area of Southern Appalachia was eventually occupied by the Cherokee Nation. Cherokee territory extended throughout Southern Appalachia and included parts of Virginia, North Carolina, Kentucky, Tennessee, Georgia, and South Carolina. There is record of at least 43 towns just before the outbreak of the Revolutionary War. Their society was gradually penetrated, constrained, and eventually removed by white Europeans whose livelihood was based on capitalistic trade, manufacturing, and agricultural production.

Many early routes used by these indigenous peoples are still in use today and were originally based on early migration patterns. By instinct, herds of buffalo would find their way through this territory by selecting the lines of least resistance. One of their routes was through the mountain gap between present-day Zionville, North Carolina, and Trade, Tennessee, and into the upper part of the area drained by the Watauga River. They followed the creeks and the river itself, around Buffalo Mountain—near today's Johnson City—and into the valley near where the Watauga flows into the South Fork Holston River—the site of today's Boone Reservoir. These buffalo trails became roads followed by hunters, then pioneers, and later became routes for stagecoaches and railroads.

The first European visitors to the area followed these paths through the mountain gaps and along the waterways and settled near the rivers. During the 1760s, Daniel Boone came through the gap, followed the buffalo trail, and visited the Watauga area as a hunter. In 1768, William Bean settled at the mouth of Boone's Creek, to be followed by friends and others from Virginia and North Carolina. Still others came down the Holston Valley out of

Virginia. In 1772, these first white settlers formed the Watauga Association, believed to be the first independent governmental body constituted west of the mountains and by American-born freeman. The Watauga Association and others from North Carolina acquired land from the Cherokees at the famous treaty site at Sycamore Shoals on the Watauga.

The immigration of European white settlers into this frontier led to new territorial claims, conflicts, and adjustments. Disagreement and disputes over boundaries were inevitable, and the Holston and Watauga valleys were centers of activity. Skirmishes between the Cherokees and the new settlers occurred. Land claims were complicated by land grants from Virginia, claims for settling and clearing virgin acres, and Lord Granville's North Carolina grants. Both Virginia and North Carolina formed counties in an area they each claimed. Settlers formed the State of Franklin, which existed between 1784 and 1788, with its capitol in Jonesborough. Those who followed John Tipton in opposing the Franklinites were known as "Tiptonites" and made their seat of government at Buffalo. North Carolina ceded its western lands in 1790 to the USA, and those lands became the Southwest Territory and later Tennessee. The temporary seat of government was located at Rocky Mount, home of William Cobb near the Watauga River. Even though the Virginia-Tennessee boundary was set in 1803, as it remains today, the legal jurisdiction dispute was not put to rest until a U.S. Supreme Court decision in 1903.

This upper east Tennessee area served as an important point of departure for expeditions for both opening up new lands and protecting settled territory. From Long Island on the Holston, Daniel Boone departed in 1775, marking the trail for pioneers to follow, eventually through the Cumberland Gap and into Kentucky. In the fall of 1780, the men of the region marched from Sycamore Shoals to the upper reaches of the Watauga watershed and through Carver's Gap of Roan Mountain to fight and defeat the British troops under Colonel Patrick Ferguson at Kings Mountain. During the last years of the 18th century, two separate expeditions left Long Island to settle middle Tennessee and Nashville. The James Robertson party went overland while the Donelson party traveled by rivers.

The early 1800s saw the extension of commerce, growing settlements, and the development of transportation systems. Area farmers grew wheat, rye, corn, barley, oats, and tobacco, and they raised cattle and swine. While the Long Island area served as a crossroads for migratory settlers and for Cherokee trails, it also was the head of navigation for the Tennessee River system. Salt, iron, and tobacco from southwest Virginia, brought by packhorse and wagon to the Holston River, were loaded on flatboats and floated as far as Nashville or New Orleans. Retail, wholesale, and shipping businesses grew around William King's Boatyard, which served as an important distribution and transfer point. In 1822, the City of Kingsport was formed there. In 1825, the first stage line was established connecting Nashville and Salem, North Carolina, via Knoxville, Johnson City, Elizabethton, and Boone Gap. In 1831, a cotton-spinning factory began operation on Boone's Creek, 9 to 10 miles from Jonesborough—the first factory of its kind in this part of east Tennessee. In 1858, the East Tennessee and Virginia Railroad was completed between Knoxville and

Bristol. It traveled through Johnson City but bypassed Kingsport. The railroad connection from Richmond and Lynchburg through southwest Virginia to Bristol also was completed in the mid-1800s.

During the Civil War, while the area was not affected by major battles, mixed loyalties among residents and alienation among families took a heavy toll. After the war, reconstruction was difficult and progress slowed. During the latter part of the 19th century, the growth of railroads helped towns regain momentum and prosper. Signs of progress in upper east Tennessee were occurring throughout the region. Changes in Johnson City exemplified this progress. New churches and schools were built, and a newspaper was established. The first real estate company was founded, as were other industries such as a tannery, foundry, and machine works. Railroad branches such as the Virginia Creeper at Abingdon linked Bristol with areas rich in timber and coal resources.

Industrialization continued into the new century, and by 1915, the Clinchfield Railroad from Spartanburg, South Carolina, to Elkhorn City, Kentucky, was completed. City planner John Nolen was hired by area leadership and drew up plans for a new industrial city of 50,000. In 1917, the new City of Kingsport was incorporated. While some industries were successfully recruited before World War I, it was after the war that Kingsport's new industrial base took shape. Eastman Kodak Company, *Kingsport Press*, Mead Fiber Company, Holliston Mills, Blue Ridge Glass, The Borden Company, and others became established there during the 1920s. Kingsport grew dramatically during the Great Depression—largely due to new product lines at Tennessee Eastman Corporation. Industrial employment quintupled between 1935 and 1945, partly due to national defense work associated with World War II. The U.S. Census of 1950 gives the following population data for the industrial cities of the upper Holston: Johnson City, 27,864; Kingsport, 19,571; Bristol, Tennessee, 16,771; Bristol, Virginia, 15,954; and Elizabethton, 10,754.

The post-World War II economy of the Upper Holston area rapidly changed from one predominantly rural in character to one more equally divided between agriculture and industry. This change provided larger incomes for families of the area and made additional demands for trained personnel in business, industry, and agriculture. The wartime baby boom created need for more schools in the 1950s and 1960s. In the late 1970s, completion of interstate highways through the area linking the east coast with points west not only improved accessibility for travelers, business persons, and local residents, but stimulated more development. Homes "out in the county," neighborhood shopping centers, fast food outlets, shopping plazas, office parks, and scattered residential subdivisions became more accessible and demanded even better roads.

While the Upper Holston reservoirs were envisioned to provide flood control and electricity, they also provided new sources of recreation. The management of water levels by TVA provides seasonal recreation opportunities. Conveniently accessible to area residents, these reservoirs provided an attractive site for second-home development and lake cottages. By the year 2000, the area had experienced tremendous population growth:

Johnson City, 55,469; Kingsport, 44,905; Bristol, Tennessee, 24,821; Bristol, Virginia, 17,367; Blountville, 2,959; Bluff City, 1,559; and Elizabethton, 13,372.

3.2. The Project

Boone Dam is located on the South Fork Holston River, 10 miles southeast of Kingsport, Tennessee, and 1.4 miles below the mouth of the Watauga River. The dam is a concrete gravity structure with a maximum height of 160 feet and a total length of 1,532 feet. Three generating units produce a total of 81,000 kilowatts of electricity. Flood storage capacity is 75,829 acre-feet. Water levels in Boone vary about 18 feet in normal years to provide for seasonal flood storage.

Boone Reservoir was proposed in 1949 to further develop the flood control and hydroelectric potential of the Tennessee River and its tributaries. Work on Boone Dam started on August 29, 1950. Construction was completed on December 16, 1952. By the time it was completed, it was serving national defense needs because the U.S. was responding to hostilities in Korea, which increased demands for electric power within the Tennessee Valley. Boone Dam added to the power base and improved flood protection for essential defense industries in Kingsport.

The Boone project involved more than just construction of the dam. It involved the acquisition of 5,260 acres of land in Washington and Sullivan counties, Tennessee. To make way for the reservoir, other project activities included surveying, mapping, and clearing the reservoir area; constructing bridges; relocating buildings, roads, cemeteries, and power and telephone lines; and relocating families. The marker identifying William Bean’s cabin site had to be moved.

One hundred fifty-two families were displaced, of which 136 relocated in Washington and Sullivan counties, Tennessee. Seven businesses, one church, and one school were impacted by this reservoir. Forty-two residences were moved intact.

Boone Reservoir is a two-pronged reservoir. At maximum pool level, one arm of the lake extends about 16 miles up the South Fork Holston River, and the other extends approximately 15 miles up the Watauga River. At full pool, the area of Boone Reservoir is approximately 4,310 acres, and the main shoreline is 131 miles long.

3.3. The Present Shoreland

3.3.1. Physiographic Overview

Boone Reservoir is located within the Ridge and Valley ecoregion of Tennessee. This region occurs between the Blue Ridge Mountains on the east and to the Cumberland Plateau on the west, and is a relatively low-lying area made up of roughly parallel ridges and valleys that were formed through extreme folding and faulting events in past geologic time (Griffith et al. 1998).

Boone Reservoir is located within the Southern Limestone/Dolomite Valleys and Rolling Hills subregion. This is a heterogeneous region composed predominantly of limestone and cherty dolomite. Landforms are mostly undulating valleys and rounded ridges and hills, with many caves and springs. Soils vary in their productivity, and land cover includes oak-hickory and oak-pine forests, pasture, intensive agriculture, urban and industrial land uses.

3.3.2. Land Use and Prime Farmland

The percent of developed residential shoreland is approximately 66 percent on Boone Reservoir. The Watauga arm of the reservoir includes a high concentration of urban residential development on the left-descending bank in Washington County, Tennessee, which includes one developed TVA area at the dam reservation, four commercial docks, a city park, and three public access areas. Several large parcels of rural land on the right bank are active dairy and beef cattle farms. Most of the land retained by TVA lies in this segment of the reservoir.

The South Holston River arm is primarily privately owned land with moderate urban residential development interspersed with several productive farms, primarily beef cattle. There are four commercial docks, a city park, and five public access areas.

Since September 2000, TVA has implemented the Boone Management Unit (BMU) Plan, which is located along both banks of the South Fork Holston River (River Mile [RM] 18.6 to RM 35), the Watauga River (mouth to RM 15.2), and the left-descending bank of Beaver Creek (mouth to RM 1.8). In accordance with the goals of the BMU plan, TVA will implement a series of actions to provide more early successional habitat (food, nesting cover, and escape cover), largely through such activities as prescribed burning, planting native trees, pines, and warm season grasses. TVA land associated with Boone Dam Reservation is not managed under the BMU plan; however, its use was considered in development of the BMU management activities. Three terrestrial ecological communities are present on the BMU. These communities are Mixed Hardwood-Coniferous Forest (204 acres); Hardwoods (299 acres); and managed Open Land (91 acres). There is no industrial development on the reservoir.

Boone Reservoir has about 131 miles of shoreline. Of the 131 miles of shoreline, 82 percent is privately owned, flowage easement land, 3 percent is owned and managed by TVA, 14 percent is owned by TVA and jointly managed, and a fraction of a percent is TVA-owned Shoreline Access shoreland. TVA owns approximately 880 acres of Boone Reservoir, which total approximately 23 miles of shoreline. These 880 acres consist of property that is below the 1,390.0 maximum shoreline contour (MSC), TVA-owned islands, and those properties extending to a back-lying severance line that separates private property from TVA property.

Figure 1 represents the percent of land acreage on Boone Reservoir that is allocated to each land use zone. Non-TVA Shoreland (Zone 1) comprised the largest portion (37 percent) of land on Boone Reservoir. However, no new reservoir land was allocated to this

zone. The largest zone allocation was for Natural Resource Conservation (Zone 4) at 32 percent. Project Operations (Zone 2), Sensitive Resource Management (Zone 3), and Developed Recreation (Zone 6) ranged from 5 to 15 percent, while less than one acre was allocated to TVA Shoreline Access (Zone 7) and Industrial (Zone 5) had no shoreland allocated.

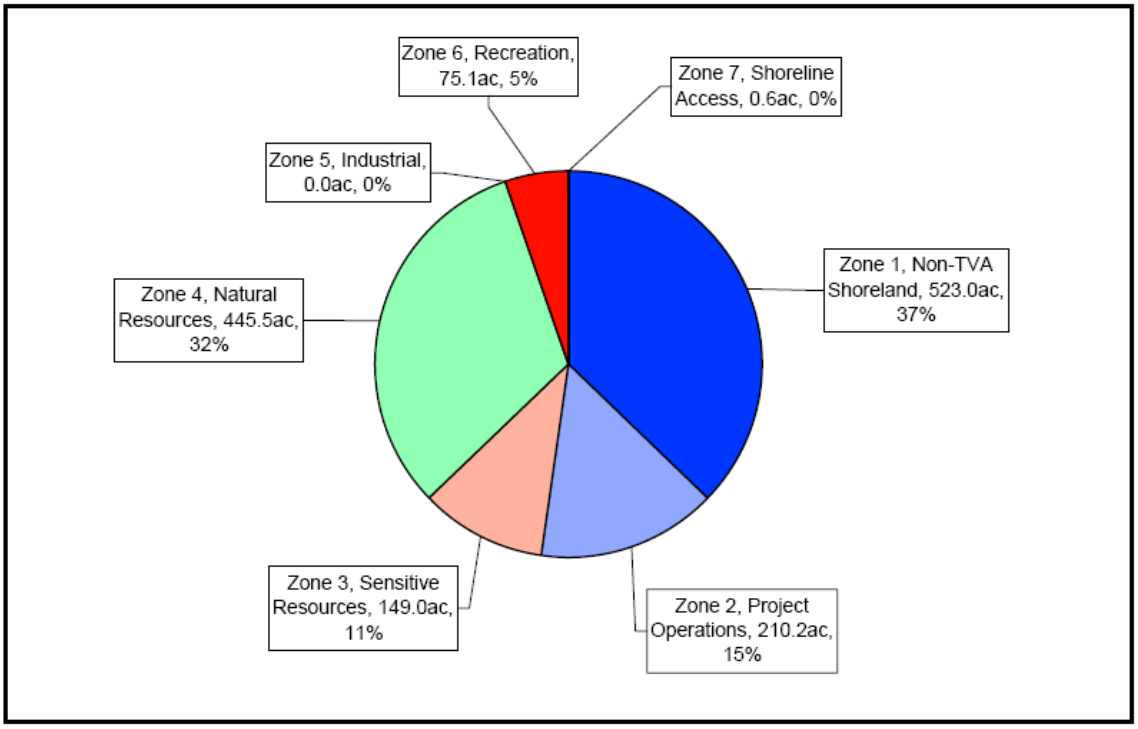

Figure 1. Percent of Boone Reservoir Acreage Allocated by Zone

Although the majority of shoreline on Boone Reservoir is privately owned, TVA has a flowage easement to the 1,390.0 MSC. Any structures placed below the 1,390.0 MSC are subject to approval under Section 26a of the *TVA Act*. Section 26a is designed to ensure that construction along the shoreline and in waters of the Tennessee River system and the TVA reservoirs does not adversely impact TVA's responsibility for managing the river system and for achieving "Unified Development and Regulation of the Tennessee River." For more information on TVA's SMP, see Section 2.5 of this RLMP.

Zone 2 (Project Operations) is all TVA reservoir land currently used for TVA operations and public works projects. There are approximately 210 acres allocated to Zone 2 (Project Operations). The largest parcel allocated as Zone 2 is the Boone Dam Reservation. The dam reservation contains several buildings associated with power production from Boone Reservoir—for instance, Boone Dam, control building, powerhouse, switchyard, and regional hydropower production maintenance building, as well as numerous power transmission lines. Additional facilities located on the reservation are the Boone Dam

Visitors Center, a picnic area, a beach area with public restrooms, a firing range for the TVA police, maintenance facilities, and the Water Management Field Engineering Base.

Zone 3 (Sensitive Resource Management) is land managed for protection and enhancement of sensitive resources. Sensitive resources, as defined by TVA, include resources protected by state or federal law or EO and other land features/natural resources TVA considers important to the area viewscape or natural environment. The largest parcels allocated as Zone 3 are Parcels 28 and 40. Parcel 28 (Deerlick Bend) consists of two peninsulas located at the mouth of Whites Branch and is comprised primarily of upland hardwood forest. Stand age ranges from 70 to 90 years old. Parcel 40 (William Bean Historical) is located at the confluence of the Watauga River and Boone Creek. The Flourville and Boone Creek area comprises one of Tennessee's earliest settlements. The Daughters of the American Revolution have placed a monument on this parcel to commemorate the site.

Almost 446 acres of the 880 acres of TVA-owned property on Boone Reservoir is allocated as Zone 4 (Natural Resource Conservation). Zone 4 makes up the second-largest acreage of TVA fee-owned property. Zone 4 lands are 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.

Parcels 5 and 26 (Earl Light Tract and Forks of the River) are the largest parcels allocated to Zone 4. Earl Light Tract is a 118-acre tract, which was a former borrow pit during the construction of Boone Dam. The area is comprised of both open fields and wooded areas. There is good road access and a gravel parking area for the site. Hunting is allowed consistent with state regulations. The Earl Light Tract also has a footpath through the parcel that provides opportunities for hiking and wildlife/bird viewing. The Forks of the River parcel is the largest woodland parcel on Boone Reservoir and is located at the confluence of the Watauga and South Fork Holston rivers. There is a gated access road and gravel parking area for visitors to this parcel. Hunting and fishing are permitted consistent with state regulations; however, a hunter safety zone has been established on a portion of this parcel.

Zone 6 (Developed Recreation) consists of TVA lands that have been developed for recreational purposes, such as public launching ramps or county parks. Parcel 3 is the largest parcel allocated to this zone. This parcel has a paved launching ramp, parking lot, and a courtesy pier. Fishing is permitted; however, hunting is prohibited on this parcel.

At less than an acre, Zone 7 (Shoreline Access) makes up the smallest land use zone on Boone Reservoir. Zone 7 lands are TVA-owned lands where Section 26a applications and other land use approvals for private shoreline alterations are considered. Requests for private shoreline alterations are considered on parcels identified in this zone where such use was previously considered, and/or where the back-lying owners have deeded access rights, and where the proposed use would not conflict with the interests of the public.

The Boone Reservoir contains approximately 58.5 acres of prime farmland. Prime farmland has the best combination of soil physical and chemical characteristics for producing food and fiber and is protected from conversion to industrial and nonagricultural uses by the U.S. Department of Agriculture (USDA). These 58.5 acres occur in either Zone 2 (Project Operations), 3 (Sensitive Resource Management), or 4 (Natural Resource Conservation). Major soil disturbance could occur on Zone 2 (Project Operations) when TVA or other public facilities are constructed. However, once these facilities are established, they often remain intact for long periods, and large tracts of land remain without adverse impacts to prime farmlands. Zones 3 and 4 lands, by their function, have little or no soil disturbance and such allocations would have no adverse impacts to prime farmlands. For more information on land use and prime farmland, see Volume I, Sections 3.2 and 3.4.

3.3.3. Recreation

TVA's recreation vision seeks to enhance recreation opportunities and address unmet recreation needs while managing resources on Boone Reservoir. Developed recreation provides modern facilities and amenities on shoreline properties such as campgrounds, lodges, marinas, developed boat launches/ramps, and a myriad of day use facilities (picnic areas, swimming beaches, and fishing piers). These TVA lands are primarily allocated as Zone 6 (Developed Recreation) and as Zone 2 (Project Operations) because developed recreation facilities occur on Boone Dam Reservation (see Table 1 for land use zone definitions).

Dispersed recreation areas provide passive, unconfined opportunities that are predominantly nature-based. In general, areas that provide dispersed recreation amenities contain one or more of the following: rustic trails for fishing access, walking/hiking, and horseback riding; primitive campsites; unimproved swimming and launching sites; and hunting and fishing areas. The TVA areas that provide dispersed recreation opportunities on TVA lands include many Zone 2 parcels such as substations and dam reservations, Zone 3 and 4 parcels, and undeveloped Zone 6 parcels (see Table 1 for land use zone definitions).

Developed recreation facilities and amenities on Boone Reservoir include one campground, 11 developed boat launches/ramps, and a myriad of day use facilities including one picnic area, one swimming beach, two fishing piers, and one ball field. Boone Reservoir parcel descriptions (see Section 4.0) further describe the management entity and management prescription of said recreation facilities that occur on these lands managed either by TVA or under contractual agreement to another government entity or commercial operator. Table 2 itemizes developed recreation area lands that are managed by TVA or are under contractual agreement for recreation purposes, their managing agency/entity, and their locations by parcel number. Table 2 does not itemize privately owned/operated recreation facilities that are adjacent to Boone Reservoir shoreline, because they are private and beyond the scope of this RLMP.

Table 2. Developed Recreation Areas on TVA Lands on Boone Reservoir

Recreation Area	Managing Entity	Location
Dam Reservation	TVA	Parcel 1
Tract 22 R (retained)	TVA	Parcel 3
Airport Ramp	Tennessee Wildlife Resources Agency (TWRA)	Parcel 8
Muddy Creek Ramp	TWRA	Parcel 11
Old DeVault Ramp	TWRA	Parcels 14 and 24
Bluff City Park	Bluff City, Tennessee	Parcel 21
Rainbow Bridge Ramp	TWRA	Parcel 23
Knob Creek	TWRA	Parcel 36
Highway 11E Ramp	TWRA	Parcel 37
Pickens Bridge Ramp	TVA	Parcel 41
Jay's Boat Dock (commercial parking lot)	Private	Parcel 42

TVA manages seven dispersed recreation areas with 59 sites on Boone Reservoir. A site is defined as an area of impact where a recreation activity occurs; an area is the sum of the sites within close proximity of one another on a TVA parcel. These areas are located on Parcels 10, 25, 26, 27, 28, 29, and 41. For further description of these parcels, see Section 4.0.

Dispersed recreation areas on Boone Reservoir were assessed and analysis of the data qualified two areas as beyond the biophysical "Limits of Acceptable Change" (LAC). Those areas are Deerlick Island on Parcel 27 and Candy Creek on Parcel 10. Areas that exceeded the LAC may be prioritized by the watershed team and proposed for improvements. For more information on recreation, see Volume I, Section 3.3.

3.3.4. Terrestrial Ecology

The Ridge and Valley ecoregion contains long stretches of ridges with adjacent valleys that run in a southwestern-to-northeastern direction. The variety of landforms, soils, climate, and geology across the Ridge and Valley have allowed for an extremely diverse assemblage of animals. Deciduous forests and mixed evergreen-deciduous forests provide wildlife habitat among the intense agriculture and urban sprawl.

Oak-hickory forest is the most abundant forest type in the eastern U.S. (Flather et al. 1999) and is prevalent in the Boone Reservoir region. Numerous bird species nest in deciduous forests, for example wild turkey, whip-poor-will, ruby-throated hummingbird, red-eyed vireo, blue-headed vireo, wood thrush, gray catbird, black-throated green warbler, black-and-white warbler, ovenbird, hooded warbler, and the scarlet tanager.

Evergreen and evergreen-deciduous forests account for 35 percent of the land cover for the Boone Reservoir area (Tennessee Department of Environment and Conservation [TDEC] 2000, 2006a, 2006b). This type of forests provide nesting habitat for woodland birds including pine, yellow-throated warblers, great crested flycatcher, and chuck-will's-widow.

Birds that winter in this forest type include red-breasted nuthatch, red crossbill, and pine siskin. Other animals that inhabit evergreen and evergreen-deciduous forests but are not restricted to them include white-tailed deer, wild turkey, black bear, eastern mole, southern bog lemming, eastern kingsnake, smooth earth snake, eastern fence lizard, and six-lined racerunner. Additionally, streams, wetlands, and other seasonally wet areas in this forest type provide habitat for a variety of salamanders, frogs, and toads. The riparian zones along streams within deciduous forests provide nesting habitat for Acadian flycatcher, northern parula, and Louisiana waterthrush. Many additional bird species migrate through and winter in the area. Common mammal species of deciduous forests include black bear, white-tailed deer, red bat, eastern chipmunk, eastern gray and southern flying squirrels, white-footed mouse, southern red-backed and woodland voles, short-tailed shrew, gray fox, least weasel, and bobcat. For more information on terrestrial ecology, see Volume I, Section 3.5.

3.3.5. Invasive Nonnative Species

Most of the planned TVA parcels around Boone Reservoir and the other NTRs have at least some invasive nonnative species. EO 13112 defines an invasive nonnative species as any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem and whose introduction does or is likely to cause economic or environmental harm or harm to human health (USDA 2007).

According to the Federal Noxious Weed List of 2006 (USDA 2007), there are no known federal noxious weeds reported from the lands around Boone and the other NTRs. In addition, Southeastern Exotic Plant Pest Council (2006) provides a list of nonnative invasive species that could pose potential threats to native ecosystems and human health for each southeastern state. In reviewing the Tennessee exotic plant pest list (Tennessee Exotic Plant Pest Council 2001), there were 15 (Rank 1) species that pose a severe threat to native ecosystems observed in the NTRs region. Plants listed as a severe threat include the following: autumn olive, bush honeysuckle, Chinese lespedeza, Chinese privet, English ivy, garlic mustard, Japanese honeysuckle, Japanese stiltgrass, Johnson grass, kudzu, mimosa, multiflora rose, oriental bittersweet, princess tree, and tree of heaven. Other nonnative species such as crown vetch, tall fescue, shrubby bushclover, Queen Anne's lace, periwinkle, and small carpet grass were also referenced. All of these species have the potential to adversely impact the native plant communities because of their potential to spread rapidly and displace native vegetation. All of the Rank 1 (severe threat) species are considered to be of high priority to TVA (James 2002).

3.3.6. Endangered and Threatened Species

TVA biologists and natural resource specialists used the TVA Natural Heritage database to assess the endangered and threatened species within and around each of the NTRs. The TVA Natural Heritage database was created to ensure that environmental compliance activities are conducted in a consistent manner across the TVA region and that these activities meet the requirements of NEPA and the Endangered Species Act (ESA).

Database searches are based on the following criteria: (1) distance, (2) presence/absence of suitable habitats, (3) element occurrence rank values, and (4) species or type of element present. Accordingly, plants are assessed within a 5-mile radius, aquatic species within 10 miles, and terrestrial species within 3 miles. Federally listed and state-listed species identified during field reviews and/or results from the TVA Natural Heritage database are presented in Table 3.

Table 3. Federally Listed and State-listed Species Within and Near Boone Reservoir

Common Name	Scientific Name	Federal Status	State Status*	State Rank
Common Barn Owl	*Tyto alba*	--	NMGT	S3
Common Raven	*Corvus corax*	--	THR	S2
Gray Bat	*Myotis grisescens*	LE	END	S2
Least Weasel	*Mustela nivalis*	--	NOST	S2
Southern Bog Lemming	*Synaptomys cooperi*	--	NMGT	S4
Southeastern Shrew	*Sorex longirostris*	--	NMGT	S4
Longhead Darter	*Percina macrocephala*	--	THR	S2
Tangerine Darter**	*Percina aurantiaca*	--	NMGT	S3
Tennessee Dace	*Phoxinus tennesseensis*	--	NMGT	S3
American Barberry	*Berberis canadensis*	--	SPCO	S2
American Fly-Honeysuckle	*Lonicera canadensis*	--	THR	S1
Branching Whitlow-Wort	*Draba ramosissima*	--	END	S2
Goldenseal	*Hydrastis canadensis*	--	S-CE	S3
Meehania Mint	*Meehania cordata*	--	THR	S2
Mountain Honeysuckle	*Lonicera dioica*	--	SPCO	S2
Northern Starflower	*Trientalis borealis*	--	THR	S1
Northern White Cedar	*Thuja occidentalis*	--	SPCO	S3
Sapsuck	*Buckleya distichophylla*	--	THR	S2
Starflower Solomon's Seal	*Maianthemum stellatum*	--	END	S1
Wild Pink	*Silene caroliniana ssp. pennsylvanica*	--	THR	S1/S2

Federal status abbreviations: LE = Listed endangered
State status abbreviations: END = Endangered; NMGT = In need of management; NOST = No status; THR = Threatened; S-CE = Special concern-commercially exploited (plants); SPCO = Species of concern
State rank abbreviations: S1 = Critically imperiled, often with 5 or fewer occurrences; S2 = Imperiled, often with <20 occurrences; S3 = Rare or uncommon, often with <80 occurrences; S4 = Uncommon but not rare; S#/S# = Occurrence numbers are uncertain
* All records from Tennessee
**Historic record

3.3.7. Plants

Field surveys and reviews of the TVA Natural Heritage database did not indicate any federally listed endangered or threatened species within 5 miles of Boone Reservoir. One endangered species, spreading aven, occurs in Carter County on Roan Mountain, and one threatened species, small whorled pognia, occurs in Washington County, Tennessee. Even though these sensitive species occur near Boone Reservoir, no designated critical habitat for rare plants was identified during field reviews. For more information on plant communities, see Volume I, Section 3.6.

3.3.8. Terrestrial Wildlife

Field surveys and reviews of the TVA Natural Heritage database indicated that one federally listed endangered species and five Tennessee state-listed species occur within and near Boone Reservoir (Table 3). For more information on terrestrial wildlife, see Volume I, Section 3.6.

3.3.9. Aquatic Wildlife

Three state-listed aquatic species, the longhead darter, tangerine darter, and Tennessee dace, have been recorded near parcels on Boone Reservoir. The longhead darter typically occurs in small- to medium-sized rivers with bedrock and boulder substrates (Etnier and Starnes 1993). The record for the longhead darter occurs in the Doe River, several miles upstream of Boone Reservoir. Although this species could potentially occur in the Watauga River near Parcel 35, TVA samples upstream of Parcel 35 have not documented longhead darters.

The tangerine darter typically occurs in clearer portions of large- to moderate-sized headwater tributaries of the Tennessee River (Etnier and Starnes 1993), such as the Watauga River. One record is known from the Watauga River, upstream of Boone Reservoir. However, this record of the tangerine darter is historic and the species has not been documented in this stretch of river in over 100 years.

The Tennessee dace is restricted to small (6 feet wide or less) low-gradient streams. Several records are known from small tributaries to Boone Reservoir. The Tennessee dace could potentially occur on parcels with small streams. For more information on aquatic wildlife, see Volume I, Section 3.6.

3.3.10. Wetlands

Wetlands are transitional ecosystems between terrestrial and aquatic communities, where saturation with water is the dominant factor in determining the types of plants and animals present. Wetlands are ecologically important because of their beneficial effect on water quality, their moderation of flow regimes by retaining and gradually releasing water, their value as wildlife habitat, and as areas of botanical diversity. Wetlands exist within and adjacent to TVA reservoirs, and are influenced by surface water and groundwater connections to the water levels in these reservoirs.

Field surveys were conducted to determine types and locations of wetlands on uncommitted parcels on each reservoir. Wetlands on uncommitted parcels were also categorized by their functions, sensitivity to disturbance, rarity, and irreplaceability. Based on estimates from the U.S. Fish and Wildlife Service National Wetlands Inventory maps combined with data sets developed for TVA's 2004 *Reservoir Operations Study*, Boone Reservoir has approximately 48 acres of wetland habitat. However, there were no wetlands present on the eight uncommitted parcels. For more information on wetland resources, see Volume I, Section 3.7.

3.3.11. Floodplains

The area impacted by the RLMP extends from the lower limit of the dam reservation at about South Fork Holston RM 17.9 upstream to about South Fork Holston RM 36.3 and Watauga RM 15.8 in Boone Reservoir. Boone Dam is located at South Fork Holston RM 18.6. The 100-year floodplain is the area that would be inundated by the 100-year flood. Flood information downstream of Boone Dam is currently unavailable.

There are two main watercourses in Boone Reservoir, the South Fork Holston River, and the Watauga River. The 100-year flood elevations for the South Fork Holston River vary from 1,385.0 feet mean sea level (msl) at Boone Dam to elevation 1,403.3 feet msl at the upper end of TVA's landrights at about RM 36.3. The 500-year flood elevations for the South Fork Holston River vary from elevation 1,385.0 feet msl at Boone Dam to elevation 1,406.8 feet msl at the upper end of TVA's landrights.

The 100-year flood elevations for the Watauga River vary from 1,385.0 feet msl at the mouth (South Fork Holston RM 19.93) to elevation 1,402.7 feet msl at the upper end of TVA's landrights at about RM 15.8. The 500-year flood elevations for the Watauga River vary from elevation 1,385.0 feet msl at the mouth to elevation 1,404.4 feet msl at the upper end of TVA's landrights. Tabulations of the 100- and 500-year flood elevations are included in Volume I, Appendix E, Tables 2-6.

All msl measurements are according to the National Geodetic Vertical Datum model of 1929.

3.3.12. Cultural and Historic Resources

Two archaeological surveys have been conducted on Boone Reservoir. The first, a small-scale survey on the Boone Dam Reservation, resulted in the identification of no archaeological sites (McIlhany 1994). TRC Garrow Associates Inc. conducted the second reservoirwide archaeological survey under contract with TVA (Pietak and Holland 1998). The survey resulted in the identification of 53 previously unidentified archaeological sites and three previously identified archaeological sites. The archaeological sites comprise both historic and prehistoric sites inundated by the creation of the reservoir.

Regarding historic sites, little or no permanent European-American settlement occurred in the Boone Reservoir area prior to the 1760s. However, frontiersmen and explorers, such as Daniel Boone, did trek through the region in the early 1760s. By 1769, William Bean became the first permanent settler in the Boone Creek area. The site on which he chose to build his cabin was formerly the site of Daniel Boone's hunting camp. Russell Bean, first child of permanent settlers, was born there. The remnants of the Bean cabin are now considered an archaeological resource, as the structure no longer exists. Further descriptions of cultural and historic resources are available in the Boone Reservoir parcel descriptions in Section 4.0. For more information on the cultural and historic resource review process, see Volume I, Section 3.9.

3.3.13. Managed Areas and Sensitive Ecological Sites

Natural areas include managed areas, ecologically significant sites, and Nationwide Rivers Inventory streams. M*anaged areas* include lands held in public ownership that are managed by an entity (e.g., TVA, USFS, State of Tennessee, Sullivan County) to protect and maintain certain ecological and/or recreational features. A management plan or similar document defines what types of activities are compatible with the intended use of the managed area. *Ecologically significant sites* are tracts of privately owned land either that are recognized by resource biologists as having significant environmental resources or identified tracts on TVA lands that are ecologically significant but not specifically managed by TVA's Natural Areas Program. *Nationwide Rivers Inventory* streams are free-flowing segments of rivers recognized by the National Park Service (NPS) as possessing remarkable natural or cultural values.

The TVA Natural Heritage database indicated two natural areas on Boone Reservoir on Parcel 20 and Parcel 34. The TVA Natural Areas Program manages neither of these two natural areas. Natural areas adjacent to Boone Reservoir include USFS lands, city parks, and state parks. Zone allocations of the TVA land parcels are in agreement with the management objectives of these back-lying public lands. Natural areas that are on, immediately adjacent to, or within 3 miles of Boone Reservoir are identified in Table 4.

Table 4. Natural Areas on, Adjacent to, or Within 3 Miles of Boone Reservoir

Natural Area	Steward	Location
Austin Springs Ecologically Significant Site	TVA	Parcel 34
Overmountain Victory National Historic Trail	NPS in partnership with states and other groups	South Fork Holston River, approximate RM 34.8; nearest Parcel 20
Winged Deer Park	City of Johnson City, Tennessee, and TWRA	Watauga River, approximate RM 10.9 Left
Morrell Cave State Designated Natural Area	TDEC	0.5 mile southeast*
Cherokee National Forest	USFS	0.7 mile east*
Watauga River Bluffs The Nature Conservancy (TNC) Preserve/Designated State Natural Area	TNC–Tennessee and TDEC	1.6 miles south*

*Distance to nearest point on the reservoir

Morrell Cave State Designated Natural Area supports a substantial colony of gray bats and is located approximately 0.5 mile southeast of Boone Reservoir. There is also an unnamed cave within Parcel 6 on Boone Reservoir. Parcel 6 is committed to Zone 3, Sensitive Resource Management. The cave was discovered but not explored during surveys for the *Boone Reservoir Land Management Plan Environmental Assessment* (TVA 1999). No new caves were observed during the 2008 field surveys. For more information on managed areas and sensitive ecological sites, see Volume I, Section 3.10.

3.3.14. Aesthetics and Visual Resources

The physical, biological, and cultural features seen in the landscape give reservoir land its distinct visual character and sense of place. Varied combinations of these elements make the scenic resources of any portion identifiable and unique. In the planning process, comparative scenic values of reservoir land were assessed to help identify areas for scenic conservation and scenic protection.

Potential visual consequences were examined in terms of the likely visual changes between the existing landscape and the landscape as it might be altered by each alternative. The assessment of visual change considered the sensitivity of viewing points available to the public, their viewing distances, and visibility of proposed changes. For more information on aesthetics and visual resources, see Volume I, Section 3.11.

3.3.15. Water Quality

Since 1994, ecological conditions in Boone Reservoir have rated poor. Throughout the years, all indicators have indicated some stress at all sample locations: high concentrations of chlorophyll, low dissolved oxygen concentrations, fair fish assemblage, poor bottom life, and the presence of metals and organic contaminants in the sediments. Historically, pollution loads have been a more prominent issue in Boone Reservoir than in the other NTRs, mainly because of the intensive development within the immediate watershed (TVA 1985; TVA 1991).

The Reservoir Ecological Health Index is made up of several component indices; dissolved oxygen, chlorophyll, fish (i.e., Reservoir Fish Assemblage Index [RFAI]), bottom life, and sediments]. The scores from these indices are totaled and then the average is taken to come up with the overall reservoir ecological health score. Figure 2 shows the reservoir ecological health scores for Boone Reservoir from 1994 through 2007. Areas sampled on Boone Reservoir include the forebay at South Fork Holston RM 19.0 and two transition zone locations at South Fork Holston RM 27.0 and Watauga RM 6.5.

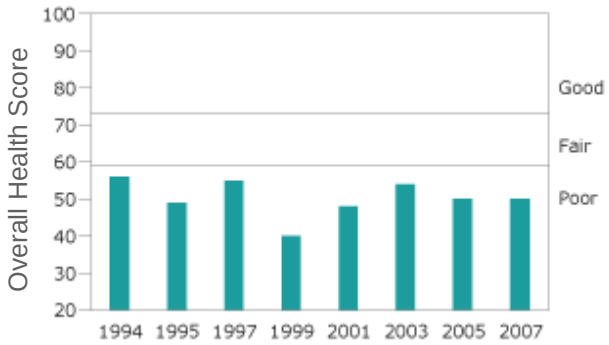

Figure 2. Boone Reservoir Ecological Health Ratings, 1994-2007

The typical ratings for dissolved oxygen, chlorophyll, and sediment monitored as part of the Reservoir Ecological Health Monitoring Program, 1991-2007, for all NTRs, is available in Volume I, Section 3.12.

3.3.16. Aquatic Ecology

Unimpounded rivers of the Ridge and Valley ecoregion typically consist of limestone rubble and bedrock riffles, sandy silty pools, and some extensive sand and gravel shoals (Etnier and Starnes 1993). These conditions exist in upper reaches of reservoirs where free-flowing streams transition into impounded reservoirs as well as in reservoir tailwaters. Water discharged into the tailwaters can be very cold and have low dissolved oxygen content, impairing water quality. In turn, this stretch of river directly downstream of dams can have less diverse aquatic communities.

TVA has improved tailwater water quality below many of its hydroelectric facilities, including the Boone Reservoir. This has been accomplished by the establishment of the Reservoir Releases Improvement Program, which was begun officially in 1991 when the TVA Board of Directors approved a five-year plan to improve water releases from 16 dams by maintaining minimum flows and reaeration of dam discharges. Implementing minimum flows was accomplished via turbine pulses, and dissolved oxygen levels increased in a variety of ways (e.g., turbine venting, oxygen injection, and weir dams). These techniques helped to mimic riverine conditions in TVA tailwaters that were more natural.

Boone Reservoir is formed within the impounded sections of the South Holston and Watauga rivers. Impoundment results in species tolerant of lakelike conditions replacing typical riverine aquatic assemblages. Often, deep tributary reservoirs stratify into temperature-distinct layers in the summer with the colder, less oxygenated water settling on the bottom. Water quality in Boone Reservoir and the tailwaters is influenced by a variety of factors, such as size, geology, and land use conditions in the reservoir's upstream drainage areas, point and nonpoint discharges of pollutants, activities on lands adjacent to the reservoir, and the operation of the reservoir.

3.3.16.1. Reservoir Vital Signs

The Reservoir Vital Signs Monitoring Program (RVSMP) activities focus on (1) physical and chemical characteristics of waters; (2) physical and chemical characteristics of sediments; (3) sampling the benthic macroinvertebrate community; and (4) fish assemblage sampling. The RVSMP data include annual fish sampling on tributary reservoirs from 1999-2007 (2008 data are not yet available) on a two-year rotation sampling cycle. Ratings are based primarily on fish community structure and function, using an analysis tool known as the RFAI (McDonough and Hickman 1999).

Both RFAI and benthic community samples were taken in the forebay area (near the dam) and in the transition zones of the South Fork Holston and Watauga rivers, which both comprise the transition zone section of Boone Reservoir. Since 1999, RFAI scores have consistently rated fair with scores ranging from 31 to 38. Benthic community scores for the forebay have been inconsistent with ratings of poor to fair. Both transition zones of Boone Reservoir have consistently rated poor; however, the 2007 South Fork Holston River showed potential improvements with a rating of fair. Available RFAI and reservoir benthic community score results for Boone Reservoir are presented below in Table 5. The RVSMP data for all NTRs are available in Volume I, Section 3.13.

Table 5. Reservoir Fish Assemblage Index and Benthic Community Scores Collected Between 1995 and 2007 in the Boone Reservoir as Part of the Reservoir Vital Signs Monitoring Program

Year	RFAI Scores			Benthic Community Scores		
	Forebay	Transition*	Transition**	Forebay	Transition*	Transition**
1995	-	-	-	Poor	Poor	Poor
1997	-	-	-	Poor	Poor	Poor
1999	Fair	Fair	Fair	Poor	Poor	Poor
2001	Fair	Fair	Fair	Fair	Poor	Poor
2003	Fair	Fair	Fair	Poor	Poor	Poor
2005	Fair	Fair	Fair	Fair	Poor	Poor
2007	Fair	Fair	Fair	Poor	Fair	Poor

* South Fork Holston River
**Watauga River

RFAI Score	12-28	29-44	45-60
Community Condition	Poor	Fair	Good
Benthic Community Score	7-16	17-26	27-35
Community Condition	Poor	Fair	Good

3.3.16.2. Sport Fishing Index

A Sport Fishing Index (SFI) has been developed to measure sport fishing quality for various species in Tennessee and Cumberland Valley reservoirs (Hickman 2000). The SFI is based on the results of fish population sampling by TVA and state resource agencies and, when available, results of angler success as measured by state resource agencies (i.e., bass tournament results and creel surveys). The SFI score ranges from a high of 60

(excellent) to a low of 20 (very poor). SFI scores for Boone Reservoir are presented in Table 6.

Table 6. 2007 Sport Fishing Index Scores for Selected Sport Fish Species on Boone Reservoir

Species	Score	Valleywide Average
Black Bass	25	36
Black Crappie	27	34
Bluegill	26	27
Channel Catfish	28	33
Largemouth Bass	25	33
Smallmouth Bass	29	30
Striped Bass	29	37

3.4. The Future

As unmanaged growth and development increase, there is impact on the natural resources that contribute to the quality of life that draws people to the Boone Reservoir. This quality of life will be impacted by the success or failure to achieve an appropriate balance between development and the protection of natural resources and could decrease the ecotourism and recreational value of Boone Reservoir.

Boone Reservoir's future will be affected by trends and issues that extend far beyond its shoreline. Population growth within the upper east Tennessee region, land development and community planning practices, growing tourism, recreational economy, a growing diversity of recreational pursuits, as well as developments in upstream portions of the Watauga and South Fork Holston watersheds all will affect the quality of experience Boone Reservoir provides. Close attention must be given to protecting shorelands with unique or special qualities, properly managing and conserving the natural resources of the shoreline, and protecting different uses so the public can enjoy them.

3.5. Parcel Allocations

The parcel allocations for Boone Reservoir can be found below in Table 7, which is the parcel information matrix that coincides with the Boone Reservoir map. This table identifies each parcel number, allocation zone, number of acres, and parcel description. Non-TVA Shoreland (Zone 1) totals 523 acres on Boone Reservoir and is not included in Table 7 because it is shoreland that TVA does not own in fee or land that TVA never purchased.

Table 7. Boone Reservoir Parcel Allocations

Parcel Number	Zone Allocations Acres	2	3	4	5	6	7	BOONE RESERVOIR Description
1	191.1	●						Boone Dam Reservation
2	10.4	●						Boone Dam Reservation
3	51.5					●		22R
4	2.7	●						Power Line
5	118.1			●				Earl Light Tract
6	3.0		●					Earl Light Cave
7	0.1						●	Misty Waters Access
8	1.1					●		Misty Waters Launch Area
9	5.3			●				Candy Creek W
10	13.8			●				Candy Creek E
11	0.2					●		Muddy Creek Ramp
12	3.1			●				Country Lake Estates
13	0.2	●						TVA Power Line
14	0.9					●		Old DeVault TWRA
15	4.5			●				Beaver Creek
16	0.0	●						Buffalo Road
17	0.1						●	Rainbow Bridge Access
18	0.6		●					Bluff City Bridge
19	0.0	●						Bluff City Highway Bridge
20	0.8			●				Bluff City Bridge Marginal
21	3.6					●		Bluff City Park
22	0.1			●				Bluff City Strip
23	0.4					●		Rainbow Bridge TWRA Ramp
24	0.7					●		Old DeVault TWRA Ramp
25	5.4		●					Wagner Bend
26	151.4			●				Forks of the River
27	70.1			●				Deerlick Island
28	35.5		●					Deerlick Bend
29	76.7			●				Darr Creek
30	1.8		●					Wetland
31	5.8	●						TVA Power Line
32	0.3		●					Wetland
33	1.5			●				J.A. Hodge Road Marginal Strip
34	6.4		●					Hodge Islands
35	4.3		●					Watauga Flats Island
36	0.4					●		Knob Creek Recreation
37	0.6					●		Winged Deer Park
38	0.3						●	Park Place / Duncan's Cove Access
39	0.1			●				Boones Creek
40	25.3		●					William Bean Historical
41	13.8					●		Pickens Bridge
42	2.0					●		Jay's Boat Dock
43	7.2		●					Boring Chapel
44	59.4		●					Greene Tract (OSEA)
Total	**880.4**							
	Committed Land - Under current agreement, used for project operations, with sensitive resources, or fronting public recreation land.							
	Uncommitted Land - Land that is considered "Plannable".							

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4.0 PARCEL DESCRIPTIONS

(See exhibit map)

Note: Parcel descriptions represent the total acreage listed that lies above the 1,385.0-foot median shoreline contour. Each parcel description is discussed in four sections: General Description, Recreation, Sensitive Resources, and Transfers/License/Easement/Lease Agreements. In cases where the recreation section is absent, recreation activities are not compatible with the use or allocation of the parcel.

Boone Reservoir Parcel Descriptions

Parcel 1	**191.1 Acres**
Common Name:	**Boone Dam Reservation**
Allocation:	**Zone 2 (Project Operations)**
Hydrologic Unit:	**TN-06010102-130**
County:	**Sullivan and Washington, Tennessee**
Stream:	*South Fork Holston River Mile 17.9 – 18.8 Left and South Fork Holston River Mile 17.9 – 19.4 Right*

General Description:

Parcel 1 is the Boone Dam Reservation. This land is committed to Project Operations (Zone 2), in keeping with the planning objective to provide for the integrity of TVA projects on TVA land. It is located off Highway 75 in Sullivan County with a portion of the reservation in Washington County. The reservation contains several buildings associated with power production from Boone Reservoir. Boone Dam, the control building, the powerhouse, switchyard, and regional hydropower production maintenance building, as well as numerous power transmission lines, are located on this parcel. Boone Dam is equipped with three 25-megawatt power generators. Additional facilities located on the dam reservation are the Boone Dam Visitors Building, a picnic area, a beach area with public restrooms, a firing range for the TVA Police, the Boone Dam maintenance base, and the Water Management field engineering base.

Approximately 27 acres of the reservation are open, grassy areas maintained by cyclic mowing. Approximately 10 acres are parking lots, roads, and walkways. Past activity, associated with operation and maintenance of Boone Dam, has greatly influenced the present vegetation on the parcel. The steep areas on the west side of the river, which total about 25 acres, and a 13-acre stand along the northeast portion of the parcel are the only stands on this parcel that have not been cleared or heavily disturbed in the past 40 years. These stands are occupied by saw-timber-sized northern and upland hardwood, primarily sugar maple, white oak, ash, hickory, and chestnut oak. Five acres on the southwestern portion of the parcel are leased for agricultural purposes.

The remainder of the parcel is dominated by reverted fields and old spoil areas. Shortleaf and loblolly pines were planted in small patches on some of the areas that were formerly open; an 18-

acre stand of planted loblolly pine, located along the river, is the largest of these planted stands. Various mixtures of pine, hardwood, and red cedar occupy the reverted areas, which range in age and stand size. This parcel contains 37.4 acres identified as being prime farmland.

Private water use facilities will not be considered.

Recreation:
Recreation opportunities associated with dispersed recreation occur on the reservation, and all but hunting are appropriate uses on Zone 2 properties. Hunting is prohibited, but fishing is permissible, consistent with state regulations.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data indicate that there is one historical record of a state-listed species. Suitable habitat for the species still exists on this parcel between Boone Dam Road and the river. Several areas of the reservation have foundations dating from the original construction of Boone Dam, as well as remaining original buildings, such as the maintenance base. The National Wetlands Inventory maps indicate a small wetland along the river below Boone Dam. The shoreline vegetation provides a riparian zone. All of these sensitive resources would be considered when utilizing the Boone Dam Reservation.

Transfers/License/Easement/Lease Agreements:

- The State of Tennessee Highway Department has a permanent easement on the north side of the parcel for Highway 75, which crosses the Holston tailwater (Fort Patrick Henry).
- Sullivan County has a permanent road easement in the middle of the western parcel for Boone Dam Road.
- The City of Johnson City has a permanent easement for a wastewater treatment plant line in the middle of the eastern parcel.
- Bristol Tennessee Essential Services has a license for utility right-of-way on the south side of the western parcel and crossing the dam.
- Johnson City Power Board has a license for utility right-of-way crossing the middle of both parcels.

Prior Allocation: Project Operations

Parcel 2	**10.4 Acres**
Common Name:	**Boone Dam Reservation**
Allocation:	**Zone 2 (Project Operations)**
Hydrologic Unit:	**TN-06010102-130**
County:	**Washington, Tennessee**
Stream:	*Cedar Creek River Mile 0.3 Left*

General Description:
This land is considered committed to TVA Project Operations (Zone 2), in keeping with the planning objective to provide for the integrity of TVA projects on TVA land. Vegetation is composed of grassy

lawn areas and planted white pine and other trees. The shoreline vegetation provides a riparian zone. This parcel contains 3.6 acres identified as being prime farmland.

Private water use facilities will not be considered.

Recreation:
Recreation opportunities associated with dispersed recreation occur on the reservation, and all but hunting are appropriate uses on Zone 2 properties. Hunting is prohibited, but fishing is permissible, consistent with state regulations.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- The City of Johnson City has a permanent utility easement on this entire parcel for a wastewater treatment plant.
- Adelphia Business Solutions has a license on the northern side of this parcel for utilities (fiber optics).
- Johnson City Power Board has a license for utility right-of-way crossing the northern side of this parcel.

Prior Allocation: Project Operations

Parcel 3	**51.5 Acres**
Common Name:	**Tract 22 R (retained)**
Allocation:	**Zone 6 (Developed Recreation)**
Hydrologic Unit:	**TN-06010102-130**
County:	**Sullivan, Tennessee**
Stream:	*South Fork Holston River Mile 19.4 – 20.0 Right*

General Description:
This parcel contains upland hardwood vegetation, dominated by locust, hickory, elm, and oaks. This accounts for over one-third of the naturally reverted areas. Other reverted stands are occupied by various mixtures of hardwood, pine, and red cedar. Scattered patches of planted shortleaf and loblolly pine occupy about 10 acres. The shoreline vegetation provides a riparian zone to the reservoir.

A portion of Parcel 3 is mowed, with the remaining portion in woodland. This parcel has been heavily influenced by previous land use; most of the parcel was in agricultural use prior to TVA and reverted naturally to forest cover or was planted to pine. A portion of the parcel was also used as a borrow pit/spoil disposal area during past construction projects on the dam reservation.

Private water use facilities will not be considered.

Recreation:
Parcel 3 was allocated to Zone 6 to reflect current recreation uses. It is developed with a paved launching ramp and parking lot. The facility has lights and a courtesy pier. This parcel also provides access for recreation activities associated with dispersed recreation. Fishing is permitted, consistent with state regulations, but hunting is prohibited on this parcel.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- Sullivan County has a permanent road easement in the middle of the northern side of this parcel for Minga Road.
- Bristol Tennessee Essential Services has a license for security lights in the parking lot of the parcel.
- A TVA transmission line crosses the middle of this parcel.

Prior Forecast: Public Recreation

Parcel 4	**2.7 Acres**
Common Name:	**TVA Power Line**
Allocation:	**Zone 2 (Project Operations)**
Hydrologic Unit:	**TN-06010102-130**
County:	**Sullivan, Tennessee**
Stream:	*South Fork Holston River Mile 19.4 – 20.0 Right*

General Description:
This parcel consists of power line rights-of-way, which divide Parcels 3 and 5. The power line is the Boone Dam-Sullivan Substation 161-kilovolt (kV) line. The parcel is periodically cleared to maintain the power line rights-of-way. This land is considered committed to Zone 2 (Project Operations), in keeping with the planning objective to provide for the integrity of TVA projects on TVA land.

Private water use facilities will not be considered.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- A TVA transmission line encompasses this entire parcel.

Prior Allocation: Project Operations

Parcel 5 **118.1 Acres**
Common Name: **Earl Light Tract**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010102-130; TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *Unnamed Tributary South Fork Holston River Mile 19.8 Right*

General Description:
Parcel 5 is located on Gammon Road near Boone Dam Reservation. Currently, a 54-acre portion of this parcel is licensed for agricultural use as hay land. This parcel was used as a borrow pit during construction of Boone Dam. It has Sullivan County road rights-of-way and Bristol Tennessee Essential Services distribution lines located on a portion of the parcel. The surrounding land use is small farms and residential.

This parcel is comprised of open fields with three patches of woods. A 13-acre area along the northern corner is occupied by pole-sized red cedar and upland hardwood (elm and black cherry), while two patches of upland hardwood, totaling 12 acres, are situated on the westernmost corner. This area is dominated by large saw-timber oaks, hickory, and yellow poplar. The wooded portions have been grazed by cattle in the past and have little groundcover as a result. Vegetative buffers have been established along the major drains through planting and discontinuing mowing to create wildlife cover. The shoreline vegetation provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Recreation:
Recreation use on the parcel is primarily hunting and wildlife/bird viewing. This parcel has good road access and a small, developed gravel parking area. Hunting is allowed consistent with state regulations. A footpath/hiking trail continues to be constructed to provide opportunities for users to walk through various successional stages of the forest community. Parcel 5 also contains a 27.9-acre area across the cove, which serves as a buffer between adjoining private land and the TVA launching ramp located on Parcel 3.

Sensitive Resources:
This parcel was placed in Zone 4 to reflect its capability to provide a diversity of ecological communities and recreation opportunities. This parcel is the largest open-land resource parcel on Boone Reservoir. The parcel has high partnership interest by the Tennessee Wildlife Resources Agency (TWRA) and nongovernmental organizations as a wildlife habitat demonstration area.

The parcel has deciduous, wooded knobs with numerous sinkholes and rock outcrops. This parcel represents potential habitat for several listed small mammal and bird species and possibly some listed amphibians. The mature hardwood forest and forested moist rocky outcrops are potential habitat for listed plant species. Historic structures were located on private land in close proximity of this parcel.

Easements/Lease Agreements/Licenses/Transfers:

- Bristol Tennessee Essential Services has a license for utility right-of-way on the south side of the parcel.
- Sullivan County has a permanent road easement in the middle of this parcel for Minga Road.
- There is a cooperative agriculture license for hay on the northern section of this parcel.
- A TVA transmission line crosses the middle of this parcel.

Prior Allocation: Natural Resource Conservation

Parcel 6	**3.0 Acres**
Common Name:	**Earl Light Tract Cave**
Allocation:	**Zone 3 (Sensitive Resource Management)**
Hydrologic Unit:	**TN-06010102-130**
County:	**Sullivan and Washington, Tennessee**
Stream:	*Unnamed Tributary South Fork Holston River Mile 19.8 Right*

General Description:

Parcel 6 is a small 3.5-acre area surrounded by Parcel 5. It has an emergent wetland plant community, which is rare on Boone Reservoir, and almost a 1-acre pond. The pond was constructed in the early 1980s to water livestock. In addition to the wetland, the parcel also includes 50 feet of buffer between the wetland and an adjacent agricultural field.

Private water use facilities will not be considered.

Sensitive Resources:

This parcel was allocated to Sensitive Resource Management due to the existence of the small wetland. Emergent wetland plant communities provide suitable habitat for amphibians, shorebirds, and small mammals. Also located on this parcel are an unnamed cave opening, numerous sinkholes, fractures, and moist openings within a wooded knob. The cave was discovered but not explored during surveys for the 1999 *Boone Reservoir Lands Plan Environmental Assessment* and could represent suitable habitat for several listed small mammal species. The mature hardwood forest and forested moist rocky outcrops are potential habitat for many listed plant species.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Sensitive Resource Management

Parcel 7 **0.1 Acres**
Common Name: **Misty Waters Access**
Allocation: **Zone 7 (Shoreline Access)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *Unnamed Tributary Bowman Creek River Mile 0.3 Right*

General Description:
This parcel is a narrow riparian strip along the reservoir shoreline. Vegetation on this parcel consists of open grassy areas. Shoreline Management Initiative categorization indicates that this parcel is in the Managed Residential category. This parcel was placed in Zone 7 to reflect the existence of deeded ingress and egress rights associated with back-lying residential property.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location. Private water use facilities will be considered.

Easements/Lease Agreements/Licenses/Transfers:
- None

Prior Allocation: Residential Access

Parcel 8 **1.1 Acres**
Common Name: **Misty Waters Launch Area**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *Unnamed Tributary Bowman Creek River Mile 0.3 Right*

General Description:
Parcel 8 is a narrow strip along the reservoir shoreline that is managed by TWRA. Vegetation consists of open grassy areas and patches of upland hardwoods.

Private water use facilities will not be considered.

Recreation:
TWRA has developed the parcel with a parking lot and launching ramp. As such, this parcel was placed in Zone 6 to reflect the current use of developed recreation. TWRA access regulations, which include prohibition of camping, are posted.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- TWRA has a permanent recreation easement over this parcel.

Prior Allocation: Developed Recreation

Parcel 9 **5.3 Acres**
Common Name: **Candy Creek West**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 20.4 – 20.6 Right*

General Description:
Parcel 9 is located in the Candy Creek Community. Most of this parcel was planted with shortleaf pine in the mid-1950s for erosion control. No thinning has been conducted and, as a result, stocking is very dense. The eastern end has some naturally reverted Virginia pine mixed in with the planted shortleaf. Due to the lack of a pine pulp market in this area, these stands have little commercial value. It was placed in Zone 4 to reflect its capability to provide a diversity of ecological communities and dispersed recreation opportunities.

Private water use facilities will not be considered.

Recreation:
Hunting and fishing are permitted, consistent with state regulations.

Sensitive Resources:
Existing data did not indicate any sensitive resources at this location. The shoreline vegetation provides a riparian zone to the reservoir. In addition, these areas can be important riparian habitats for wetland mammals, wading birds, migrant waterfowl, and raptors, as well as nesting habitat for wood ducks and songbirds.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Natural Resource Conservation

Parcel 10 **13.8 Acres**
Common Name: **Candy Creek East**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 20.8 – 23.2 Right*

General Description:
Parcel 10 is located in the Candy Creek Community. Most of this parcel was planted to shortleaf pine in the mid-1950s for erosion control. No thinning has been conducted and, as a result, stocking is very dense. The eastern end has some naturally reverted Virginia pine mixed in with the planted

shortleaf. Due to the lack of a pine pulp market in this area, these stands have little commercial value. It was placed in Zone 4 to reflect its capability to provide a diversity of ecological communities and dispersed recreation opportunities.

Private water use facilities will not be considered.

Recreation:
Hunting and fishing are permitted, consistent with state regulations. Other dispersed recreation opportunities, particularly camping, occur on the parcel. In 2007, three dispersed recreation sites were assessed on the parcel, and based on the Limits of Acceptable Change (LAC) analysis, they qualify as candidate form management actions, though none are planned at this time.

Sensitive Resources:
Existing data did not indicate any sensitive resources at this location. The shoreline vegetation provides a riparian zone to the reservoir. In addition, these areas can be important riparian habitats for wetland mammals, wading birds, migrant waterfowl, and raptors, as well as nesting habitat for wood ducks and songbirds.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Natural Resource Conservation

Parcel 11	**0.2 Acres**
Common Name:	**Muddy Creek Ramp**
Allocation:	**Zone 6 (Developed Recreation)**
Hydrologic Unit:	**TN-06010102-110**
County:	**Sullivan, Tennessee**
Stream:	*Muddy Creek River Mile 0.3 Right*

General Description:
This parcel is a narrow riparian strip along the reservoir shoreline. Vegetation on this riparian strip consists of cedar and upland hardwoods.

Private water use facilities will not be considered.

Recreation:
TWRA has provided a launching ramp. Parking for the access area is limited to the shoulder of the road.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- TWRA has a permanent recreation easement over this entire parcel.

Prior Allocation: Developed Recreation

Parcel 12 **3.1 Acres**
Common Name: **Country Lake Estates**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *Muddy Creek River Mile 0.1 – 0.3 Left*

General Description:
This parcel fronts Country Lake Estates Subdivision. It is scattered with saw-timber oaks, pole-sized upland hardwoods, sycamore, and red cedar. The parcel is steep, with exposed rock on the parcel.

Private water use facilities will not be considered.

Sensitive Resources:
Existing data did not indicate any sensitive resources at this location. The shoreline vegetation provides a riparian zone to the reservoir. The overall quality of the habitat on the parcel is considered low.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Natural Resource Conservation

Parcel 13 **0.2 Acre**
Common Name: **TVA Power Line**
Allocation: **Zone 2 (Project Operations)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *Muddy Creek River Mile 0.1 Left*

General Description:
Parcel 13 is a transmission line right-of-way that divides Parcel 12. The power line is the Boone Dam-Sullivan Substation 161-kV line. This parcel is periodically cleared to maintain the right-of-way.

Private water use facilities will not be considered.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Project Operations

Parcel 14 **0.9 Acre**
Common Name: **Old DeVault TWRA**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 26.2 Right*

General Description:
This parcel is a narrow riparian strip along the reservoir shoreline that is managed by TWRA. Vegetation on this riparian strip consists of cedar and upland hardwoods.

Private water use facilities will not be considered.

Recreation:
TWRA has developed the parcel with a launching ramp and a roadside gravel parking area. As such, this parcel was placed in Zone 6 to reflect the current use of developed recreation. TWRA access regulations, which include prohibition of camping, are posted.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- TWRA has a permanent recreation easement over this entire parcel.

Prior Allocation: Developed Recreation

Parcel 15 **4.5 Acres**
Common Name: **Beaver Creek**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010120-120**
County: **Sullivan, Tennessee**
Stream: *Beaver Creek 1.1 – 1.8 Left*

General Description:
This parcel is a narrow strip along Beaver Creek that includes sections of grassy cleared areas and sparsely forested sections that are occupied by pole-sized bottomland hardwood (box elder, sycamore, red maple). The shoreline vegetation provides a riparian zone to the reservoir. Part of the forested area is situated on an upper slope and contains an upland hardwood component, primarily black cherry. It was placed in Zone 4 to reflect its capability to provide a diversity of ecological communities and dispersed recreation opportunities.

Private water use facilities will not be considered.

Recreation:
A public road provides access to this long, narrow strip. Although its location on the upper reaches of Beaver Creek limit potential use, the parcel's accessibility and length make it suitable for dispersed recreation uses, such as bank fishing. Hunting and fishing are permitted, consistent with state regulations.

Sensitive Resources:
The archaeological survey did not locate any artifacts; however, review of the acquisition map indicates that the parcel had historic structures. Additional study is necessary to determine eligibility to the National Register of Historic Places (NRHP). The historic structures survey also indicates several structures are adjacent to the parcel, which are potentially eligible for the NRHP.

Existing data did not indicate any sensitive resources at this location; overall, the quality of the habitat is poor. However, these areas can be important riparian habitats for wetland mammals, wading birds, migrant waterfowl, raptors, nesting wood ducks, and songbirds.

Easements/Lease Agreements/Licenses/Transfers:

- Sullivan County has a permanent road easement in the middle of the southern side of this parcel for old Beaver Creek Road.
- Bristol Tennessee Essential Services has a license for utility right-of-way crossing the middle of the parcel.

Prior Allocation: Natural Resource Conservation

Parcel 16	**0.03 Acre**
Common Name:	**Buffalo Road Bridge**
Allocation:	**Zone 2 (Project Operations)**
Hydrologic Unit:	**TN-06010120-120**
County:	**Sullivan, Tennessee**
Stream:	*Beaver Creek River Mile 0.8 Left*

General Description:
Parcel 16 is located in the Buffalo Community of Sullivan County. TVA purchased this parcel for the construction of Beaver Creek Road. The Buffalo Road Bridge crosses Beaver Creek at this location. This parcel is committed to Zone 2 (Project Operations), in keeping with the planning objective to provide for the integrity of TVA projects on TVA land.

Private water use facilities will not be considered.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- The State of Tennessee Highway Department has a permanent easement on this parcel for Buffalo Road Bridge.

Prior Allocation: Reservoir Operations

Parcel 17 **0.1 Acre**
Common Name: **Rainbow Bridge Access**
Allocation: **Zone 7 (Shoreline Access)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 30.2 Right*

General Description:
This parcel is a narrow riparian strip along the reservoir shoreline. Vegetation on this parcel consists of open grassy areas. Shoreline Management Initiative categorization indicates that this parcel is in the Managed Residential category. This parcel was placed in Zone 7 to reflect the existence of deeded ingress and egress rights associated with back-lying residential property.

Private water use facilities will be considered.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Residential Access

Parcel 18 **0.6 Acres**
Common Name: **Bluff City Bridge**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 34.4 Right*

General Description:
Parcel 18 is located immediately downstream from the Bluff City Bridge on the north side of the reservoir. Situated between the road and the water, this parcel is occupied by open grassy areas and pole-sized box elder thickets. Past roadside stabilization activities have deposited rock and other debris on the parcel.

Private water use facilities will not be considered.

Sensitive Resources:
The grassy areas and elder thickets provide important riparian habitats for wetland mammals, wading birds, migrant waterfowl, raptors, nesting wood ducks, and songbirds. Due to the presence of sensitive cultural resources, Parcel 18 was allocated to Zone 3 (Sensitive Resource Management).

Easements/Lease Agreements/Licenses/Transfers:
- None

Prior Allocation: Sensitive Resource Management

Parcel 19 **0.02 Acre**
Common Name: **Bluff City Highway Bridge**
Allocation: **Zone 2 (Project Operations)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 34.4 Right*

General Description:
Parcel 19 is located in the Bluff City area of Sullivan County on the north side of the reservoir. The Bluff City Highway Bridge (Highway 390) crosses the South Fork Holston River at this location. This parcel is committed to Zone 2 (Project Operations), in keeping with the planning objective to provide for the integrity of TVA projects on TVA land.

Private water use facilities will not be considered.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:
- The State of Tennessee Highway Department has a permanent easement on this parcel for Bluff City Highway Bridge (390).

Prior Allocation: Public Recreation

Parcel 20 **0.8 Acre**
Common Name: **Bluff City Bridge Marginal**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 34.4 – 34.8 Right*

General Description:
Parcel 20 is located immediately upstream from the Bluff City Bridge on the north side of the reservoir. A United States Geological Survey stream gauge is located on this parcel. This narrow strip along the reservoir is heavily armored with large boulder-sized riprap.

The Overmountain Victory National Historic Trail is a 330-mile, four-state trail that retraces a route used during the Revolutionary War to defeat the British. The trail, designated a national historic trail by the National Park Service (NPS), is only partially developed and when completed would cross Boone Reservoir at approximately RM 35.0 near this parcel. NPS works in partnership with states and other groups for trail development and commemorative marches.

Private water use facilities will not be considered.

Sensitive Resources:
Existing data did not indicate any sensitive resources at this location. This parcel is a very thin marginal strip with sparse vegetation and marginal wildlife habitat. However, historic resource concerns should be considered in utilization of this parcel. Parcel 20 is allocated to Zone 4 (Natural Resource Conservation), due to the importance of riparian zones as habitat for wetland mammals, wading birds, migrant waterfowl, raptors, nesting wood ducks, and songbirds.

Easements/Lease Agreements/Licenses/Transfers:

- Sullivan County has a permanent road easement in the middle of the entire parcel for Silver Grove Road.

Prior Allocation: Natural Resource Conservation

Parcel 21	**3.6 Acres**
Common Name:	**Bluff City Park**
Allocation:	**Zone 6 (Developed Recreation)**
Hydrologic Unit:	**TN-06010102-110**
County:	**Sullivan, Tennessee**
Stream:	*South Fork Holston River Mile 34.1 – 34.6 Left*

General Description:
Parcel 21 is considered committed to Zone 6 to reflect its current use of developed recreation. It is managed by Bluff City. The parcel has sewer, water, and electric utilities. Bristol Tennessee Essential Services power line and the telephone line cross the Holston River at the Bluff City Bridge.

Private water use facilities will not be considered.

Recreation:
This parcel is developed with two parking areas, a paved launching ramp, a boardwalk, picnic pavilion, toilet facilities, and ball fields.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location. However, a historic structures survey conducted indicates that potential resources eligible to the NRHP are adjacent to the parcel**.**

Easements/Lease Agreements/Licenses/Transfers:

- The State of Tennessee Highway Department has a permanent easement on this parcel for Bluff City Highway (390).
- Charter Communications has a license on this parcel for fiber optics running through the middle of the parcel.
- Bluff City has a permanent recreation easement over the entire parcel.

Prior Allocation: Developed Recreation

Parcel 22 **0.1 Acre**
Common Name: **Bluff City Strip**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 33.5 Left*

General Description:
This parcel is a narrow riparian strip along the reservoir shoreline that fronts residential property. It is currently being used as an unauthorized lake access and maintained by mowing. It was placed in Zone 4 to reflect the management of natural resources for human use and appreciation.

Private water use facilities will not be considered.

Sensitive Resources:
This narrow strip of shoreline vegetation is very thin, and wildlife habitat is poor. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Natural Resource Conservation

Parcel 23 **0.4 Acre**
Common Name: **Rainbow Bridge TWRA Ramp**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 30.9 Left*

General Description:
This parcel is a narrow riparian strip along the reservoir shoreline that has been transferred to TWRA for public recreation. Vegetation on this parcel consists of saw-timber-sized upland hardwoods. The shoreline vegetation provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Recreation:
TWRA has developed and manages the site with a parking lot and launching ramp. TWRA regulations, including prohibition of camping, are posted.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data do not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:
- TWRA has a permanent recreation easement over this parcel.

Prior Allocation: Developed Recreation

Parcel 24	**0.7 Acre**
Common Name:	**Old DeVault TWRA Ramp**
Allocation:	**Zone 6 (Developed Recreation)**
Hydrologic Unit:	**TN-06010102-110**
County:	**Sullivan, Tennessee**
Stream:	*South Fork Holston River Mile 26.2 Right*

General Description:
This parcel is a narrow riparian strip along the reservoir shoreline that has been transferred to TWRA for public recreation. This parcel is occupied by grassy patches with scattered trees.

Private water use facilities will not be considered.

Recreation:
TWRA has developed the site with a parking lot and launching ramp. TWRA regulations, including prohibition of camping, are posted.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:
- TWRA has a permanent recreation easement over this entire parcel.
- Sullivan County has a permanent road easement crossing the northern side of this parcel for DeVault Bridge Road.

Prior Allocation: Developed Recreation

Parcel 25 **5.4 Acres**
Common Name: **Wagner Bend**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 25.2 – 26.0 Left*

General Description:
Parcel 25 consists of two small islands and a point of Lakewind Subdivision in the Wagner Bend area. This parcel has mixed-aged, deciduous forest with moderate to deep leaf litter, rocky outcrops, and moist depressions (one sinkhole with standing water).

Hardwood dominates this parcel with both upland and cove species present. Yellow poplar, northern red oak, white oak, and hickory are the most prevalent canopy species, with black gum, red maple, and sourwood in the understory. Portions of the parcel are rocky. The two small islands have poor, rocky soils. Pole-sized cedar and upland hardwood occupy the islands.

Private water use facilities will not be considered.

Recreation:
Although small, these parcels are very visible and attract dispersed recreation use. The parcels are only accessible by boat. Hunting and fishing are permitted, consistent with state regulations.

Sensitive Resources:
This parcel was rated as having excellent and distinctive visual attributes. While representing only a small amount of undisturbed shoreline, this parcel location is on a point, and the associated islands make this parcel ideal for protection of a visual resource. Furthermore, Parcel 25 consists of important riparian habitats for wetland mammals, wading birds, migrant waterfowl, raptors, nesting wood ducks, and songbirds. No other sensitive resources were identified.

Easements/Lease Agreements/Licenses/Transfers:
- None

Prior Allocation: Sensitive Resource Management

Parcel 26 **151.4 Acres**
Common Name: **Forks of the River**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010120-120; TN-06010102-110**
County: **Sullivan, Tennessee**
Stream: *South Fork Holston River Mile 20.0 – 20.8 Left and Watauga 0.0 – 1.5 Right*

General Description:
Parcel 26 is the largest woodland parcel on Boone Reservoir. This parcel is located at the confluence of the Watauga and South Holston rivers and contains Navigation Marker Dayboard No. 2. The small area surrounding the dayboard is periodically cleared of brush so that the marker is visible from the reservoir.

Past agricultural land use has impacted this parcel significantly, with most of the area being grazed or farmed prior to TVA purchase. Approximately 50 acres of the parcel located on the eastern portion were in TVA agricultural licenses until the early 1960s. About 30 acres of this area were planted to shortleaf pine (small portions were planted to loblolly pine); the remaining agricultural licenses were allowed to revert naturally and are now evenly distributed between upland hardwood and Virginia and shortleaf pine stands.

Due to poor soil conditions attributed to past farming activity and lack of active thinning, growth of pine has been poor. The existing pine stands have only reached pole size and are densely stocked. The old-field upland hardwood stands are dominated by black locust, hickory, and southern red oak of medium to poor quality and stocking.

Private water use facilities will not be considered.

Recreation:
This parcel provides numerous opportunities for recreation activities associated with dispersed recreation. Hunting and fishing are permitted, consistent with state regulations. A hunter safety zone has been established on a portion of the parcel. A gravel parking area has been constructed near the gated access road. This parcel has potential for resource management, and partnerships with TWRA and nongovernmental organizations exist.

Sensitive Resources:
This parcel has been placed in Zone 4 to reflect management of natural resources for human use and enjoyment. This parcel has some wooded bluff habitat with rock outcrops and mature deciduous forest with some sinkholes. The mature hardwood forest and forested moist rocky outcrops are potential habitat for many sensitive plant species.

The parcel has excellent ecological diversity with high deer and turkey populations. Habitats on the property range from open fields to mature forest. The forest stands are better than those observed on other parcels on Boone Reservoir. No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location. However, given the mature stands of timber on portions of the property, the presence of a variety of snags and an open midstory, the parcel has potential for Indiana bats and other listed species.

No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Sensitive Resource Management

Parcel 27 **70.1 Acres**
Common Name: **Deerlick Island**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-150**
County: **Sullivan, Tennessee**
Stream: *Watauga River Mile 1.9 – 4.0 Right*

General Description:
This parcel is comprised of a 72-acre island and not accessible by road. Dayboard 18 is located on this parcel. The island contains a series of old fields that reverted to forest cover over a 20- to 40-year period after TVA's purchase. The northern portion is dominated by poorly formed black locust and yellow poplar, which are sparsely stocked. Red cedar occupies the southern portion of the island with scattered small patches of planted shortleaf pine. Honeysuckle is prevalent on much of the island. Because of past agricultural uses, the soils on most of the island are low in productivity. The surrounding land use is agricultural, woodland, and dispersed residential.

This parcel has a variety of slopes (slight to steep), leaf litter depths, and forest compositions (pine to mixed to mature deciduous) with some rock outcrops, sinkholes, and rock fractures. Habitats present could potentially contain several listed species of small mammals, birds, and amphibians. The pine and mature hardwood forests are potential habitat for many sensitive plant species. This parcel contains 13.8 acres identified as being prime farmland.

Private water use facilities will not be considered.

Recreation:
This parcel provides numerous opportunities for recreation activities associated with dispersed recreation, but is only accessible by boat. In 2007, this parcel was assessed using the Dispersed Recreation method and LAC analysis. Thirty-three sites were assessed and exceeded the LAC; as such, the sites qualified for management action. In spring 2009, the parcel was reassessed and mitigation measures suggest reducing 33 sites to 20, without detracting from the dispersed recreation opportunities on the island. Hunting and fishing are permitted, consistent with state regulations. A hunting safety zone was established on a portion of the parcel. The parcel has high potential for resource management and partnerships with TWRA and nongovernmental organizations.

Sensitive Resources:
This parcel has been placed in Zone 4 to reflect management of natural resources for human use and enjoyment. It has high ecological diversity. No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:
- None

Prior Allocation: Sensitive Resource Management

Parcel 28 **35.5 Acres**
Common Name: **Deerlick Bend**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-150**
County: **Sullivan, Tennessee**
Stream: *Watauga River Mile 4.0 Right*

General Description:
Parcel 28 consists of two peninsulas located at the mouth of Whites Branch. The surrounding land use is agricultural, woodland, and dispersed residential. Upland hardwood is the dominant forest type on the western segment of this parcel, which comprises about 26 acres. Common tree species include yellow poplar, southern red oak, white oak, and hickory. Upper slopes are generally occupied by pole-sized trees with large and small saw-timber occupying the lower slopes. Stand age ranges from 70 to 90 years old. Stand density (stocking) and tree quality are good.

The eastern segment is occupied by pine and upland hardwood, which is large saw-timber size. Hardwood species include black oak, scarlet oak, and white oak with Virginia pine the most common pine species. The hardwood is generally 80 to 90 years old, with the pine averaging about 60 years. Much of this segment is on south-facing slopes with poor to medium soils that have low moisture regimes. The site has been burned by wildfire in the past because of this condition.

Private water use facilities will not be considered.

Sensitive Resources:
This parcel was placed in Zone 3 due to sensitive resources identified on the parcel.

Easements/Lease Agreements/Licenses/Transfers:
- None

Prior Allocation: Project Operations

Parcel 29 **76.7 Acres**
Common Name: **Darr Creek**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-150**
County: **Sullivan, Tennessee**
Stream: *Watauga River Mile 4.4 – 4.7 Right and Darr Creek 0.1 – 0.7 Left*

General Description:
The parcel is a peninsula formed by the Watauga River to the west and Darr Creek to the south and is accessible only by water. Hardwood dominates this parcel with both upland and cove species present. Most of this parcel is occupied by reverted old field with early successional forests. Yellow poplar, northern red oak, white oak, and hickory are the most prevalent canopy species with black gum, red maple, and sourwood in the understory. Portions of the parcel are rocky, and a sinkhole is present.

Over half of this parcel is a former agricultural license, which reverted to forest cover about 30 years ago. The entire area northwest of the power line and about one-third of the area east of the power line were open. These areas have reverted to a variety of forest situations; most of the area reverted to red cedar, while other components include Virginia pine and upland hardwood. Portions of the northern end were interplanted with white and loblolly pine. An older reverted field (50 years old) is adjacent to the area east of the power line and is occupied by black locust and yellow poplar. Honeysuckle is prevalent on most of these reverted fields, especially east of the power line. The remaining portion of this parcel is a 16-acre cove hardwood stand that is about 80 years old. In addition, the result of a naturally reverted field, this stand is well stocked with large saw-timber trees. The shoreline vegetation provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Recreation:
This parcel provides opportunities for dispersed recreation. Hunting and fishing are permitted, consistent with state regulations.

Sensitive Resources:
Mature deciduous forest with multiple sinkholes, wet depressions, numerous fallen logs, and moderate leaf litter are present on this parcel. This site represents habitat for several listed species of small mammals, birds, and amphibians and has suitable bald eagle nesting habitat. TWRA has interest in this parcel for management to reduce nuisance goose problems.

The archaeological survey identified nine sites/isolates. However, these sites do not appear to be eligible for the NRHP. The historic structures survey indicates there are historic structures within the view shed of this parcel that need to be considered prior to utilization of this parcel. The structures are the King's Dairy Farm and White farmhouse (located adjacent to King's Dairy Farm). No other sensitive resources on the parcel were identified.

Easements/Lease Agreements/Licenses/Transfers:

- A TVA transmission line crosses the middle of this parcel, which divides Parcel 29 and Parcel 31.

Prior Allocation: Natural Resource Conservation

Parcel 30 **1.8 Acres**
Common Name: **Wetland**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-150**
County: **Sullivan, Tennessee**
Stream: *Watauga River Mile 4.8 Right*

General Description:
This parcel is surrounded by Parcel 29 and consists of a small wetland area. A wetlands survey indicates that Parcel 30 has a small 0.25-acre wetland at the head of the small embayment on the west side of the parcel.

Private water use facilities will not be considered.

Sensitive Resources:
The wetland is spring-fed with emergent herbaceous obligate wetland vegetation. Given the rarity of this type of wetland in the Boone Reservoir area, this area is worthy of protection as a significant wetland. It represents suitable habitat for several species of listed amphibians, shorebirds, small mammals, and plants. No other sensitive resources on this parcel were identified.

Easements/Lease Agreements/Licenses/Transfers:
- None

Prior Allocation: Sensitive Resource Management

Parcel 31 **5.8 Acres**
Common Name: **TVA Power Line**
Allocation: **Zone 2 (Project Operations)**
Hydrologic Unit: **TN-06010103-150**
County: **Sullivan, Tennessee**
Stream: *Watauga River Mile 5.0 Right*

General Description:
This parcel is a power line right-of-way that divides Parcel 29. The power line is the Nagel-Sullivan 500-kV and the Phipps Bend-Sullivan Substation 500-kV line. The parcel is periodically cleared to maintain the power line right-of-way. This parcel is committed to Zone 2 (Project Operations) in keeping with the planning objective to provide for the integrity of TVA projects on TVA land.

Private water use facilities will not be considered.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Project Operations

Parcel 32 **0.3 Acre**
Common Name: **Wetland**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-150**
County: **Sullivan, Tennessee**
Stream: *Unnamed Tributary, Watauga River Mile 6.0 Right*

General Description:
A wetlands survey indicated that Parcel 32 has a narrow band of emergent and shrub/scrub wetland at the head of the embayment.

Private water use facilities will not be considered.

Sensitive Resources:
This cove-head marsh is marginal habitat for many listed amphibians, shorebirds, wading birds, and small mammals. It also provides potential suitable habitat for listed emergent wetland plant communities, which are rare on Boone Reservoir. In addition, it may also provide a buffer from surrounding agricultural land use that can affect water quality. No other sensitive resources on this parcel were identified.

Easements/Lease Agreements/Licenses/Transfers:

- Sullivan County has a permanent road easement in the middle of this parcel for J. A. Hodge Road.

Prior Allocation: Sensitive Resource Management

Parcel 33 **1.5 Acres**
Common Name: **J. A. Hodge Road Marginal Strip**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-150**
County: **Sullivan, Tennessee**
Stream: *Unnamed Tributary, Watauga River Mile 6.0 Right*

General Description:
Parcel 33 is adjacent to J. A. Hodge Road. The surrounding land use is residential and agricultural use. Pole-sized bottomland hardwood occupies most of this narrow shoreline strip with scattered grassy areas. Sycamore, elm, and red maple are the dominant species. Johnson City Power Board lines are also located on the property along the road, but are not on this parcel.

Private water use facilities will not be considered.

Recreation:
After purchasing this parcel, TVA transferred the land above the 1,390 contour to TWRA for public recreation, and since then, TWRA has reconveyed the land back to TVA. Parking is limited to the road shoulder. Bank fishing is permitted consistent with state regulations.

Sensitive Resources:
The narrow strip of bottomland hardwood and scattered grassy areas provide important riparian habitat for wetland mammals, wading birds, migrant waterfowl, raptors, nesting wood ducks, and songbirds. However, at this location, the vegetation is thin and provides poor wildlife habitat. The shoreline vegetation also provides a riparian zone to the reservoir. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- Sullivan County has a permanent road easement on the southern side of this parcel for J. A. Hodge Road.

Prior Allocation: Natural Resource Conservation

Parcel 34	**6.4 Acres**
Common Name:	**Hodge Islands**
Allocation:	**Zone 3 (Sensitive Resource Management)**
Hydrologic Unit:	**TN-06010103-150**
County:	**Washington, Tennessee**
Stream:	*Watauga River Mile 14.2 – 14.5 Islands*

General Description:
Parcel 34 is an island complex that is accessible by a river ford across private property on the east side of the river. The island, historically, was leased for agricultural use, as well as for a sand mining operation. The surrounding land use is residential on the west side of Watauga River and agricultural use on the east side of the river.

These islands have recovered from the past sand mining operations over the last 20 to 30 years and are now occupied by bottomland hardwood. Past mining activities left scattered depressions that have developed into wetlands. Vegetation is dominated by pole- to saw-timber-sized sycamore, ash, red maple, and box elder. The shoreline vegetation also provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Recreation:
These islands are located in the upper reaches of the Watauga River section of the reservoir but offer a unique setting suitable for low-density dispersed recreation.

Sensitive Resources:
Parcel 34 is the largest wetland on Boone Reservoir and includes a variety of emergent, shrub/scrub, and forested wetland types, which extend into the upland areas of the island in small "fingers" or

pockets in low-lying areas. This parcel is part of the larger Austin Springs wetlands complex, which provides wildlife habitat of considerable regional significance. The Tennessee Ornithological Society has documented use of these wetlands by numerous species of listed birds, as either foraging/resting habitat or potential nesting habitat, by both migrant and resident-listed species. In addition, this complex provides potential habitat for several listed amphibian, reptile, small mammal species, and plant species. No other sensitive resources were identified.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Sensitive Resource Management

Parcel 35	**4.3 Acres**
Common Name:	**Watauga Flats Island**
Allocation:	**Zone 3 (Sensitive Resource Management)**
Hydrologic Unit:	**TN-06010103-150**
County:	**Washington, Tennessee**
Stream:	*Watauga River Mile 15.1 – 15.4 Island*

General Description:
Parcel 35 is the island upstream of Parcel 34 at the extreme headwaters of Boone Reservoir. It is accessed by a river ford across private property on the west side of the river. The surrounding land use is agricultural use.

This parcel is occupied by saw-timber-sized sycamore, red maple, and ash. The island has mature deciduous canopy, some understory, and abundant ground cover with significant growth of exotic plants over most of the island. It is largely upland with some small areas of standing water in potholes; the soil is sandy and damp with several small mounds.

Private water use facilities will not be considered.

Recreation:
This island is located in the upper reaches of the Watauga River section of the reservoir but offers a unique setting suitable for low-density dispersed recreation.

Sensitive Resources:
The island, the wetlands, and riparian habitat are important for wetland mammals, wading birds, migrant waterfowl, raptors, nesting wood ducks, and songbirds. The shoreline vegetation also provides a riparian zone to the reservoir.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Sensitive Resource Management

Parcel 36 **0.4 Acre**
Common Name: **Knob Creek Recreation**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-150**
County: **Washington, Tennessee**
Stream: *Knob Creek River Mile 0.3 – 0.5 Right*

General Description:
Parcel 36 is a narrow riparian strip located along the shoreline. It is undeveloped and parking is limited to a narrow pullover area. A small strip of private land is located in a portion of the parcel between the reservoir and TVA land. Vegetation consists of hardwood cover, primarily black locust and black cherry. The surrounding land use is residential and includes a commercial boat dock. The shoreline vegetation provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Recreation:
This parcel is allocated to Zone 6 (Developed Recreation) because of the permanent easement rights to the TWRA for recreational use on TVA property. However, it is not currently developed with typical TWRA recreational amenities. It provides informal access for fishing and boating but does not have a formal boat launch.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:
- TWRA has a permanent recreation easement over this entire parcel.

Prior Allocation: Developed Recreation

Parcel 37 **0.6 Acre**
Common Name: **Winged Deer Park**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-150**
County: **Washington, Tennessee**
Stream: *Watauga River Mile 11.0 – 11.2 Left*

General Description:
This parcel is a narrow riparian strip located along the shoreline adjacent to Winged Deer Park lakefront and is connected to Winged Deer Park with a boardwalk.

The surrounding land use is residential and city park.

Private water use facilities will not be considered.

Recreation:
TWRA has developed the site with a parking lot, launching ramp, lights, courtesy pier, and an all-accessible fishing pier. As such, it was placed in Zone 6 to reflect its current use of developed recreation.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- TWRA has a permanent recreation easement over this entire parcel.
- The State of Tennessee Highway Department has a permanent easement on the northern tip of this parcel for Highway 11E.

Prior Allocation: Developed Recreation

Parcel 38	**0.3 Acre**
Common Name:	**Park Place/Duncan's Cove Access**
Allocation:	**Zone 7 (Shoreline Access)**
Hydrologic Unit:	**TN-06010103-150**
County:	**Washington, Tennessee**
Stream:	*Watauga River Mile 9.6 Left*

General Description:
Parcel 38 consists of a narrow riparian strip running parallel along the shoreline between private property and the reservoir. It is occupied by scattered hardwoods. The TVA land is subject to deeded rights of egress and ingress left outstanding to the back-lying property owner.

Private water use facilities will be considered.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Residential Access

Parcel 39 **0.1 Acre**
Common Name: **Boones Creek**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-150**
County: **Washington, Tennessee**
Stream: *Boone Creek River Mile 0.4 Right*

General Description:
Parcel 39 consists of a narrow band of emergent and scrub-shrub wetland at the head of the embayment. Emergent wetland plant communities are rare on Boone Reservoir. This parcel has reverted to bottomland hardwood, which is dominated by pole-sized box elder. Johnson City sewage treatment pump station is adjacent to the property.

Private water use facilities will not be considered.

Recreation:
This parcel is accessible by road and is capable of accommodating some dispersed recreation. Parking is limited to the road shoulder area. Hunting and fishing are permitted, consistent with state regulations.

Sensitive Resources:
Existing data did not indicate any sensitive resources at this location. However, this cove-head marsh is marginal habitat for many listed plant species, such as amphibians, shorebirds, wading birds, and small mammals. The parcel is also important riparian habitat for wetland mammals, wading birds, migrant waterfowl, raptors, nesting wood ducks, and songbirds. The cove-head marsh also functions to buffer water quality impacts from surrounding agricultural land use.

Easements/Lease Agreements/Licenses/Transfers:
- Washington County has a permanent road easement on the southern tip of this parcel for Cedar Point Road.

Prior Allocation: Natural Resource Conservation

Parcel 40 **25.3 Acres**
Common Name: **William Bean Historical**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-150**
County: **Washington, Tennessee**
Stream: *Watauga River Mile 8.2 – 8.5 Left and Boone Creek 0.0 – 0.2 Left*

General Description:
Parcel 40 is located at the confluence of Watauga River and Boone Creek and adjacent to Sonny's Marina. The southern half of this parcel is a former agricultural license that was planted to shortleaf pine in the early 1960s. The pine has not been thinned and, as a result, growth has been slow, reaching only pole size. Dense honeysuckle is present on portions of this stand. Upland hardwoods of various sizes occupy the northern half of the parcel. Ash, hickory, and chinquapin oak dominate

this area, which is characterized by rock outcroppings and scattered sinkholes. Stocking is low because of cutting that occurred in the mid 1960s. The shoreline vegetation provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Sensitive Resources:
Several large sinkholes with abundant moss and lichen-covered rock fractures and outcrops and numerous moist depressions are present within mixed deciduous and coniferous forest types of various ages. Habitats present within this parcel would appear suitable for several species of listed small mammals, birds, amphibians, and plant species.

Flourville and the Boones Creek area comprise one of Tennessee's earliest settlements. A monument commemorating this site has been placed on the small private inholding by the Daughters of the American Revolution. This monument needs visual protection from further residential and commercial development, such as the adjacent marina. Although the cultural resource site associated with this parcel, the Bean cabin, is below normal summer pool of Boone Reservoir, future development of this parcel has the potential to have impacts on the resource site because of the demand for water use facilities associated with development.

The Boones Creek Historical Trust has published a brochure with these sites included. The trust is actively promoting the recognition and preservation of these sites. The complex is currently under consideration for listing in the NRHP. No other sensitive resources have been identified.

Easements/Lease Agreements/Licenses/Transfers:

- None

Prior Allocation: Sensitive Resource Management

Parcel 41	**13.8 Acres**
Common Name:	**Pickens Bridge**
Allocation:	**Zone 6 (Developed Recreation)**
Hydrologic Unit:	**TN-06010102-150**
County:	**Washington, Tennessee**
Stream:	*Watauga River Mile 5.5 – 6.2 Left*

General Description:
The undeveloped portions of this parcel have hardwood forest cover, which varies somewhat by site quality. Saw-timber upland hardwood (oaks and hickory) occupies most of the area, which is primarily a southern slope, while yellow poplar is a dominant species, especially on the northern portion of the ridge.

Private water use facilities will not be considered.

Recreation:
This parcel has two boat launching ramps and a large parking area. The parking area and adjacent

ramp are managed by TWRA. On the downstream section of the parcel, TVA maintains a low water launching ramp and day use area with roadside parking. The interior section is partially developed as a campground. However, this section has been closed to public use, due to misuse of the area. This area may be reopened for dispersed recreation use.

Sensitive Resources:
No sensitive resources surveys have been conducted on committed land. Existing data did not indicate sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- Washington County has a permanent road easement crossing the middle of this parcel for Pickens Bridge Road.
- Johnson City Power Board has a license for utility crossing the middle of the parcel.

Prior Allocation: Developed Recreation

Parcel 42	**2.0 Acres**
Common Name:	**Jay's Boat Dock**
Allocation:	**Zone 6 (Developed Recreation)**
Hydrologic Unit:	**TN-06010102-150**
County:	**Washington, Tennessee**
Stream:	*Watauga River Mile 5.3 – 5.5 Left*

General Description:
Parcel 42 consists of a commercial parking lot, associated with Jay's Boat Dock, and adjacent shoreline strip that is composed of grassy areas and patches of upland and bottomland hardwood. Johnson City Power Board has electric distribution lines on this parcel. TVA provided cost sharing on a boat sewage pumping station as a demonstration on Boone Reservoir at this location. The lessee has stabilized the TVA shoreline in lieu of lease payments in past years.

Private water use facilities will not be considered.

Recreation:
This parcel was placed in Zone 6 because the commercial parking lot serves the back-lying commercial recreation development that consists of a boat ramp, marina, and restaurant.

Sensitive Resources:
A small shoreline wetland exists at the head of the cove and will be protected during the issuance of Section 26a permits in this area. No sensitive resources surveys have been conducted on committed land. Existing data did not indicate any sensitive resources at this location.

Easements/Lease Agreements/Licenses/Transfers:

- Jay's Boat Dock has a term lease for commercial recreation on this entire parcel.
- Washington County has a permanent road easement crossing the middle of this parcel for Pickens Bridge Road.

- Johnson City Power Board has a license for utility crossing the middle of the parcel.

Prior Allocation: Developed Recreation

Parcel 43 **7.2 Acres**
Common Name: **Boring Chapel**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010102-150**
County: **Washington, Tennessee**
Stream: *Watauga River Mile 3.0 – 3.2 Left*

General Description:
Parcel 43 is between Lake Harbor Estates Subdivision and Rockingham Marina. It is a fairly steep parcel consisting of saw-timber-sized upland hardwood and scattered red cedar. Scarlet oak, chinquapin oak, ash, and hickory comprise the canopy, with sugar maple, red maple, and dogwood the most prevalent species in the understory. This parcel has no road access, and the surrounding land use is lakefront residential, scattered woodland, and agricultural use. The shoreline vegetation provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Sensitive Resources:
The parcel provides riparian habitats for wetland mammals, wading birds, migrant waterfowl, raptors, nesting wood ducks, and songbirds. The allocation team rated the visual quality of this parcel as excellent. No other sensitive resources were identified.

Easements/Lease Agreements/Licenses/Transfers:
- None

Prior Allocation: Sensitive Resource Management

Parcel 44 **59.4 Acres**
Common Name: **Greene Tract (OSEA)**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010102-150; TN-06010102-130**
County: **Washington, Tennessee**
Stream: *South Fork Holston River Mile 19.4 Left*

General Description:
Parcel 44 does not have road access and is directly across the reservoir from the Boone Dam Visitors Building. The surrounding land uses are dispersed residential, woodlands, and small farms. A shoreline buffer has been established, and bioengineering techniques have been used for bank stabilization. This parcel contains 3.7 acres identified as being prime farmland.

This parcel is dominated with hardwood species, with the remainder of the parcel representing species varying in composition with slope and aspect. About 10 acres of the southern portion is occupied by large saw-timber cove hardwoods, primarily northern red oak, yellow poplar, ash,

hickory, and basswood. Upland hardwood of large saw-timber size comprises most of the remaining woodland area on this parcel. Yellow poplar, hickory, and ash are the most abundant species and range in age from 40 to 70 years. The eastern slope is a steep, rocky bluff (Buzzard Cliff), which is sparsely occupied by red cedar and upland hardwood. The northeastern portion of this parcel has a mature tulip poplar/mixed hardwood forest with an open, parklike aspect. This has minimal canopy disturbance and invasion by exotic species and has lush spring/early summer displays of wildflowers. In addition, the adjacent bluffs and open hayfields have excellent vistas. The combination of scenic quality and natural community integrity is among the highest of all uncommitted land on the reservoir.

Private water use facilities will not be considered.

Recreation:
Public access is only possible by boat. Lack of road access currently limits management capability; otherwise, resource capability would be high. TWRA has interest in the area for management to reduce nuisance goose problems on Boone Reservoir. This parcel's size, high visibility, variety of terrain, and vegetation cover make it well suited for dispersed recreation. Hunting and fishing are permitted, consistent with state regulations.

Sensitive Resources:
This parcel is an area that has had sensitive cultural resources potentially identified and needs additional research. The parcel has high ecological diversity and has been classified as an Other Sensitive Ecological Area (OSEA) due to a mature tulip/mixed hardwood forest with an open park like aspect. This parcel has sloping, mature deciduous woods with talus or loose rocks. A portion of the parcel is a sheer, partially wooded cliff with abundant rock outcrops, crevices, and fractures. These sites represent potential habitat for several listed species of small mammals, birds, and amphibians. The mature hardwood forest and the cliff is potential habitat for many listed plants.

Easements/Lease Agreements/Licenses/Transfers:

- A private agriculture lease for hay occurs on the eastern portion of this parcel.

Prior Allocation: Sensitive Resource Management

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6.0 GLOSSARY OF TERMS

100-year floodplain	The area inundated by the 1 percent annual chance (or 100-year) flood.
agricultural licensing	Some parcels or portions of parcels designated for other purposes or uses may also be suitable for interim agricultural licensing. These parcels have been identified, using the criteria contained in TVA's agriculture instruction. Normal tenure for a TVA agricultural license is five years. Land with extreme erosion potential may not be licensed for agricultural use unless erosion and sediment controls, including the use of best management practices, can be successfully implemented. Further investigation and/or mitigation of adverse impacts to natural or cultural resources may be required prior to approval of license agreements.
benthic	Refers to the bottom of a stream, river, or reservoir.
dam reservation	Lands generally maintained in a parklike setting by TVA to protect the integrity of the dam structure, hydroelectric facilities, and navigation lock. The reservation also provides for public visitor access to the TVA dam facilities and recreation opportunities, such as public boat access, bank fishing, camping, picnicking, etc.
deciduous	Vegetation that sheds leaves in autumn and produces new leaves in the spring.
dissolved oxygen	The oxygen dissolved in water, necessary to sustain aquatic life. It is usually measured in milligrams per liter or parts per million.
ecoregion	A relatively homogeneous area of similar geography, topography, climate, and soils that supports similar plant and animal life.
embayment	A bay or arm of the reservoir.
emergent wetland	Wetlands dominated by erect, rooted herbaceous plants, such as cattails and bulrush.
endangered species	A species in danger of extinction throughout all or significant portions of its range or territory. Endangered species recognized by the ESA or similar state legislation have special legal status for their protection and recovery.
evergreen	Vegetation with leaves that stay green and persist all year.
evergreen-deciduous	Vegetation consisting of a mixture of plants that are both evergreen and deciduous often referred to as mixed deciduous.

floodplains	Any land area susceptible to inundation by water from any source by a flood of selected frequency. For purposes of the National Flood Insurance Program, the floodplain, as a minimum, is that area subject to a 1 percent or greater chance of flooding (100-year flood) in any given year.
flowage easement land	Privately owned lakeshore properties where TVA has (1) the right to flood the land as part of its reservoir operations, (2) no rights for vegetation management, and (3) the authority to control structures, under Section 26a of the *TVA Act*.
forest	Vegetation having tree crowns overlapping, generally forming 60-100 percent cover (Grossman et al. 1998).
hydrologic units	Hydrologic Unit Codes (HUCs) are cataloging units assigned to each watershed by the U.S. Geological Survey for the purpose of assessment and management activities.
macroinvertebrates	Bottom-dwelling aquatic animals without vertebrates, such as mollusks and arthropods.
marginal strip	The narrow strip of land retained by TVA between the summer operating pool and back-lying tracts that are privately owned or controlled by state, local, or other federal agencies.
maximum shoreline contour (MSC)	An elevation typically 5 feet above the top of the gates of a TVA dam. It is often the property boundary between TVA marginal strip property and adjoining private property.
prime farmland	Generally regarded as the best land for farming, these areas are flat or gently rolling and are usually susceptible to little or no soil erosion. Prime farmland produces the most food, feed, fiber, forage, and oil seed crops with the least amount of fuel, fertilizer, and labor. It combines favorable soil quality, growing season, and moisture supply and, under careful management, can be farmed continuously and at a high level of productivity without degrading either the environment or the resource base. Prime farmland does not include land already in or committed to urban development, roads, or water storage.
riparian zone	An area of land that has vegetation or physical characteristics reflective of permanent water influence. Typically a streamside zone or shoreline edge.
riprap	Stones placed along the shoreline for bank stabilization and other purposes.

riparian	The communities of plants and animals which occur within the influence of a stream, river, or body of water.
riverine	Having characteristics similar to a river.
Section 26a review process	Section 26a of the *TVA Act* requires TVA review and approval of plans for obstructions, such as docks, fills, bridges, outfalls, water intakes, and riprap, before they are constructed across, in or along the Tennessee River and its tributaries. Applications for this approval are coordinated appropriately with TVA programs and the U.S. Army Corps of Engineers (USACE). USACE issues a joint public notice for those applications that are not covered by a USACE nationwide, general, or regional permit. The appropriate state water pollution control agency must also certify that the effluent from outfalls meets the applicable water quality standards.
scrub-shrub	Woody vegetation less than about 20 feet tall. Species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions.
shoreline/shoreland	The line where the water of a TVA reservoir meets the shore when the water level is at the normal summer pool elevation.
substrates	The base or material to which a plant is attached and from which it receives nutrients.
threatened species	A species threatened with extinction throughout all or significant portions of its range or territory. Threatened species recognized by the ESA or similar state legislation have special legal status for their protection and recovery.
tributary reservoirs	Impoundments created by dams constructed across streams and rivers that eventually flow into the Tennessee River.
understory	The least dominant community of trees of a forest, consisting of shade tolerant species.
upland	The higher parts of a region, not closely associated with streams or lakes.

wetlands	As defined in *TVA Environmental Review Procedures*, "Wetlands are those areas inundated by surface or groundwater with a frequency sufficient to support and under normal circumstances do or would support a prevalence of vegetation or aquatic life that requires saturated or seasonably saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas, such as sloughs, potholes, wet meadows, mud flats, and natural ponds.
Wildlife Management Area	Land and/or water areas designated by state wildlife agencies, such as the Tennessee Wildlife Resources Agency, for the protection and management of wildlife. These areas typically have specific hunting and trapping regulations as well as rules regarding appropriate uses of these areas by the public.
woodland	Open stands of trees with crowns not usually touching, generally forming 25-60 percent cover (Grossman et al. 1998).