

T E N N E S S E E V A L L E Y A U T H O R I T Y



WILBUR and WATAUGA
RESERVOIRS
FINAL RESERVOIR LAND MANAGEMENT PLAN

Volume V@

NORTHEASTERN TRIBUTARY RESERVOIRS
LAND MANAGEMENT PLAN
FINAL ENVIRONMENTAL IMPACT STATEMENT

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NORTHEASTERN TRIBUTARY RESERVOIRS LAND MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

VOLUME VI

Wilbur and Watauga Reservoirs

PREPARED BY:
TENNESSEE VALLEY AUTHORITY

MARCH 2010

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TABLE OF CONTENTS

- 1.0 INTRODUCTION..... VI-1**
 - 1.1. Background VI-1
 - 1.2. Purpose VI-2
- 2.0 PLANNING PROCESS..... VI-5**
 - 2.1. Planning Goals VI-10
 - 2.2. Allocation Process VI-11
 - 2.3. Committed Land VI-11
 - 2.4. Uncommitted Land VI-11
 - 2.5. Property Administration VI-12
- 3.0 WILBUR AND WATAUGA RESERVOIRS REGIONAL OVERVIEW VI-13**
 - 3.1. The Past VI-13
 - 3.2. The Projects VI-16
 - 3.2.1. Wilbur VI-16
 - 3.2.2. Watauga VI-16
 - 3.3. The Present Shoreland VI-17
 - 3.3.1. Physiographic Overview VI-17
 - 3.3.2. Land Use and Prime Farmland VI-17
 - 3.3.3. Recreation VI-22
 - 3.3.4. Terrestrial Ecology VI-23
 - 3.3.5. Invasive Nonnative Species VI-24
 - 3.3.6. Endangered and Threatened Species VI-25
 - 3.3.7. Wetlands VI-27
 - 3.3.8. Floodplains VI-28
 - 3.3.9. Cultural and Historic Resources VI-29
 - 3.3.10. Managed Areas and Sensitive Ecological Sites VI-30
 - 3.3.11. Water Quality VI-31
 - 3.3.12. Aquatic Ecology VI-33
 - 3.3.13. Sport Fishing Index VI-34
 - 3.4. The Future VI-35
 - 3.5. Parcel Allocations VI-35
- 4.0 PARCEL DESCRIPTIONS VI-39**
 - 4.1. Wilbur Reservoir Parcel Descriptions VI-39
 - 4.2. Watauga Reservoir Parcel Descriptions VI-44
- 5.0 LITERATURE CITED..... VI-85**
- 6.0 GLOSSARY OF TERMS VI-87**

LIST OF TABLES

Table 1.	Land Use Zone Definitions	VI-6
Table 2.	Developed Recreation Area on TVA Lands on Wilbur Reservoir.....	VI-22
Table 3.	Developed Recreation Areas on TVA Lands on Watauga Reservoir.....	VI-23
Table 4.	Federally Listed and State-Listed Species Within and Near Wilbur and Watauga Reservoirs.....	VI-25
Table 5.	Natural Areas On, Adjacent To, or Within 3 Miles of Wilbur Reservoir	VI-30
Table 6.	Natural Areas On, Adjacent To, or Within 3 Miles of Watauga Reservoir.....	VI-31
Table 7.	RFAI and Benthic Community Scores Collected Between 1995 and 2007 in the Watauga Reservoir as Part of the Reservoir Vital Signs Monitoring Program.....	VI-34
Table 8.	2007 Sport Fishing Index Scores for Selected Sport Fish Species on Watauga Reservoir	VI-35
Table 9.	Wilbur Reservoir Parcel Allocations	VI-36
Table 10a.	Watauga Reservoir Parcel Allocations (1 of 2).....	VI-37
Table 10b.	Watauga Reservoir Parcel Allocations (2 of 2).....	VI-38

LIST OF FIGURES

Figure 1.	Percent of Wilbur Reservoir Acreage Allocated by Zone	VI-19
Figure 2.	Percent of Watauga Reservoir Acreage Allocated by Zone.....	VI-20
Figure 3.	Watauga Reservoir Ecological Health Ratings, 1994-2006	VI-32

ACRONYMS AND ABBREVIATIONS

AT	Appalachian National Scenic Trail
EO(s)	Executive Order(s)
EIS	Environmental Impact Statement
ESA	<i>Endangered Species Act</i>
L	Left Bank
LAC	Limits of Acceptable Change
MSC	Maximum Shoreline Contour
msl	Mean Sea Level
NEPA	<i>National Environmental Policy Act</i>
NNL	National Natural Landmark
NPS	National Park Service
NTRLMP	Northeastern Tributary Reservoirs Land Management Plan
NRI	Nationwide Rivers Inventory
NTRs	Northeastern Tributary Reservoirs
R	Right Bank
RFAI	Reservoir Fish Assemblage Index
RLMP(s)	Reservoir Land Management Plan(s)
RM(s)	River Mile(s)
RVSMP	Reservoir Vital Signs Monitoring Program
SBRE	Southern Blue Ridge ecoregion
SFI	Sport Fishing Index
SMI	Shoreline Management Initiative
SMP	Shoreline Management Policy
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 Wilbur and Watauga Reservoirs Land Management Plan is a study of the Tennessee Valley Authority (TVA)-managed public land surrounding Wilbur and Watauga reservoirs. 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 analysis of impacts. 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 Wilbur and Watauga reservoirs. It explains the purpose of this RLMP and describes the process used in its development. The RLMP includes the planning process, which lists the objectives around which the RLMP was developed and a summary of the allocation process. The Wilbur and Watauga Reservoirs 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 electricity.

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. 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. 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 1,195 acres around Wilbur and Watauga reservoirs, which are publicly owned and managed by TVA. It identifies the most suitable uses for 65 parcels of project land, by providing areas for Project Operations, Sensitive Resource Management, Natural Resource

Conservation, Industrial, Developed Recreation, and Shoreline Access. The 1,195 acres of TVA public land account for approximately 64 miles of reservoir shoreline.

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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 need for a planned approach to the management of reservoir land and related resources.

The land planning process is subject to 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 involves allocation of 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. The definition of a land use zone provides a clear statement of how TVA will manage public land, and allocation of a parcel to a particular land use zone identifies that land for specific uses. Implementation of 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 Wilbur and Watauga reservoirs projects.

Table 1. Land Use Zone Definitions

Zone		Definition
1	Non-TVA Shoreland	<p>Shoreland that TVA does not own in fee or land never purchased by TVA. Non-TVA Shoreland allocations are based on deeded rights and, therefore, will not change as a result of the land planning process. This category is provided to assist in comprehensive evaluation of potential environmental impacts of TVA’s allocation decision. Non-TVA shoreland includes:</p> <ul style="list-style-type: none"> • Flowage easement land—Privately or publicly owned land where TVA has purchased the right to flood and/or limit structures. Flowage easement rights are generally purchased to a contour elevation. Since construction on flowage easement land is subject to TVA’s Section 26a permitting requirements, the SMP guidelines discussed in the definition of Zone 7 would apply to the construction of residential water use facilities fronting flowage easement land. SMP guidelines addressing land-based structures and vegetation management do not apply. • Privately owned reservoir land—This was land never purchased by TVA and may include, but is not limited to, residential, industrial, commercial, or agricultural land. This land, lying below the 500-year flood elevation, is subject to TVA’s Section 26a approvals for structures.
2	Project Operations	<p>All TVA reservoir land currently used for TVA operations and public works projects, including:</p> <ul style="list-style-type: none"> • Land adjacent to established navigation operations—Locks, lock operations and maintenance facilities, and the navigation work boat dock and bases. • Land used for TVA power projects operations—Generation facilities, switchyards, and transmission facilities and rights-of-way. • Dam reservation land—Areas acquired and managed for the primary purpose of supporting the operation and maintenance of TVA dams and associated infrastructure; secondary uses may also include developed and dispersed recreation, maintenance facilities, watershed team offices, research areas, and visitor centers. • Navigation safety harbors/landings—Areas used for tying off commercial barge tows and recreational boats during adverse weather conditions or equipment malfunctions. • Navigation dayboards and beacons—Areas with structures placed on the shoreline to facilitate navigation. • Public works projects—Includes public utility infrastructure, such as substations and rights-of-way for sewer lines, water lines, transmission lines, and major highway projects. • Land planned for any of the above uses in the future.
3	Sensitive Resource Management	<p>Land managed for protection and enhancement of sensitive resources. Sensitive resources, as defined by TVA, include resources protected by state or federal law or executive order and other land features/natural resources TVA considers important to the area viewscape or natural environment.</p> <p>Recreational natural resource activities, such as hunting, wildlife observation, and camping on undeveloped sites, may occur in this zone, but the overriding focus is protecting and enhancing the sensitive resource the site supports. Areas included are:</p> <ul style="list-style-type: none"> • TVA-designated sites with potentially significant archaeological resources. • TVA public land with sites/structures listed in or eligible for listing in the National Register of Historic Places.

Zone		Definition
		<ul style="list-style-type: none"> • 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	<p>Land managed for the enhancement of natural resources for human use and appreciation. Management of resources is the primary focus of this zone. Appropriate activities in this zone include hunting, timber management to promote forest health, wildlife observation, and camping on undeveloped sites. Areas included are:</p> <ul style="list-style-type: none"> • TVA public land under easement, lease, or license to other agencies for wildlife or forest management purposes. • TVA public land fronting land owned by other agencies for wildlife or forest management purposes. • TVA public land managed for wildlife or forest management projects. • Dispersed recreation areas maintained for passive, dispersed recreation activities, such as hunting, hiking, bird watching, photography, primitive camping, bank fishing, and picnicking. • Shoreline Conservation Areas—Narrow riparian strips of vegetation between the water’s edge and TVA’s back-lying property that are managed for wildlife, water quality, or visual qualities.

Zone		Definition
		<ul style="list-style-type: none"> • Wildlife Observation Areas—TVA Natural Areas with unique concentrations of easily observed wildlife that are managed as public wildlife observation areas. • River Corridor without sensitive resources present—A River Corridor is a linear green space along both stream banks of selected tributaries entering a reservoir managed for light boat access at specific sites, riverside trails, and interpretive activities. River Corridors will be included in Zone 4 unless sensitive resources are present (see Zone 3). • Islands of 10 acres or less. • Land planned for any of the above uses in the future.
5	Industrial	<p>Land managed for economic development, including businesses in distribution/processing/assembly and light manufacturing. Preference will be given for businesses requiring water access. There are two primary types of uses for TVA land allocated for Industrial: (1) Access for water supply or structures associated with navigation such as barge terminals, mooring cells, etc., or (2) Land-based development potential.</p> <p>Areas included are:</p> <ul style="list-style-type: none"> • TVA public land under easement, lease, or license to other agencies/individuals for purposes described above. • TVA public land fronting land owned by other agencies/individuals for industrial purposes described above. • Land planned for any of the above uses in the future. <p>In some cases, TVA land allocated to industrial use would be declared surplus and sold at public auction.</p> <p>Types of development that can occur on this land are:</p> <ul style="list-style-type: none"> • Light Industrial—TVA waterfront land that would support businesses and light manufacturing activities. Industrial parks should not include retail, service-based businesses like assisted living, retirement centers, or walk-in-type businesses (excluding retail use). • Industrial Access—Access to the waterfront by back-lying property owners across TVA property for water intakes, wastewater discharge, or conveyance of commodities (i.e., pipelines, rail, or road). Barge terminals are associated with industrial access corridors. • Barge Terminal Sites—Public or private facilities used for the transfer, loading, and unloading of commodities between barges and trucks, trains, storage areas, or industrial plants. • Fleeting Areas—Sites used by the towing industry to switch barges between tows or barge terminals that have both offshore and onshore facilities. • Minor Commercial Landing—A temporary or intermittent activity that takes place without permanent improvements to the property. These sites can be used for transferring pulpwood, sand, gravel, and other natural resource commodities between barges and trucks.
6	Developed Recreation	<p>The designations below are based on levels of development and the facilities available to the public. Parcel descriptions should describe the primary type of use and identify access potential for infrastructure and potential for development:</p> <ul style="list-style-type: none"> • Water Access—Small parcels of land, generally less than 10 acres, and typically shoreline areas conveyed to public agencies for public access.

Zone	Definition
	<p>Public—More recreational opportunities, some facilities, more than a parking lot and boat ramp. This includes areas conveyed for public recreation.</p> <p>Commercial—Property suitable and capable to support commercial water-based operations. This includes areas conveyed for commercial recreation.</p> <p>Land managed for concentrated, active recreational activities that require capital improvement and maintenance, including:</p> <ul style="list-style-type: none"> • <i>TVA public land under easement, lease, or license to other agencies/individuals</i> for recreational purposes. • <i>TVA public land fronting land owned by other agencies/individuals</i> for recreational purposes. • <i>TVA public land</i> developed for recreational purposes, such as campgrounds, day use areas, etc. • <i>Land planned for any of the above uses in the future.</i> <p>Types of development that can occur on this land are:</p> <ul style="list-style-type: none"> • <i>Water access</i>, e.g., areas that tend to have limited development and can include a launching ramp, courtesy piers, canoe access, parking areas, picnic areas, trails, etc. • <i>Public Recreation</i>—recreation on publicly owned land. These areas typically have facilities or uses developed by a public agency and provide amenities open to the general public. Facilities at “public recreation” areas could include playgrounds/play structures, picnic facilities, tennis courts, horseshoe areas, play courts, recreation centers, athletic fields, trails, natural areas, amphitheaters, food concessions (vending, snack bar), access to water for fishing and boating, swimming areas and swimming pools, marina facilities owned by the public entity, parking, and campgrounds. <p>Public recreation, time-forward, will not include residential use, cabins, or other overnight accommodations (other than campgrounds), except if a recreation area is owned by a state or state agency and operated as a component of a state park system, in which case cabins and other overnight accommodations will be permitted.</p> <p>Public recreation uses typically include areas and facilities owned and operated by the federal, state, county, or local government (municipalities/communities). However, private entities may operate recreation facilities on public property as concessionaires under agreement with the public entity controlling the property. The use of the facilities may be offered free or for a fee. This does not allow for public-private partnership where facilities are owned by private investors. All structures and facilities should be owned by the agreement holder.</p> <ul style="list-style-type: none"> • <i>Commercial Recreation</i>—is defined as recreation amenities that are provided for a fee to the public intending to produce a profit for the owner/operator. These primarily water-based facilities typically include marinas and affiliated support facilities like restaurants and lodges, campgrounds, cabins, military vessel attractions, and excursion tour vessels (restaurant on the water). These uses and activities can be accommodated through changes in existing conveyance agreements. These areas do not include residential use, long-term accommodations or individually owned units. Where applicable, TVA will request appropriate compensation for the use of the property.

Zone		Definition
		<ul style="list-style-type: none"> • Greenways—Linear parks or developed trails located along natural features, such as lakes or ridges, or along man-made features, including abandoned railways or utility rights-of-way, which link people and resources together.
7	Shoreline Access	<p>TVA-owned land where Section 26a applications and other land use approvals for residential shoreline alterations are considered. Requests for residential shoreline alterations are considered on parcels identified in this zone where such use was previously considered and where the proposed use would not conflict with the interests of the general public. Types of development/management that may be permitted on this land are:</p> <ul style="list-style-type: none"> • Residential water use facilities, e.g., docks, piers, launching ramps/driveways, marine railways, boathouses, enclosed storage space, and nonpotable water intakes. • Shoreline access corridors, e.g., pathways, wooden steps, walkways, or mulched paths that can include portable picnic tables and utility lines. • Shoreline stabilization, e.g., bioengineering, riprap and gabions, and retaining walls. • Shoreline vegetation management.

2.1. Planning Goals

The goals of this RLMP, listed below, are designed to implement TVA’s mission:

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

Prior to allocating parcels, the TVA planning team reviewed the characteristics of each parcel (i.e., location and existing conditions). 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 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 a zone compatible with that use unless there was an overriding need to change the use. Some committed land uses are determined by the covenants and provisions of easements, leases, licenses, and sale and transfer agreements. 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.

Approximately 52 acres (90 percent) of the TVA land surrounding Wilbur Reservoir and approximately 1,095 acres (96 percent) on Watauga 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 6 acres (10 percent) of the TVA land surrounding Wilbur Reservoir and 42 acres (4 percent) surrounding Watauga Reservoir are uncommitted. Technical specialists collected field data on many uncommitted parcels to identify areas containing sensitive resources. Representatives from 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

In the Wilbur and Watauga RLMP, TVA identifies the suitable uses for each tract of TVA-managed land around the Wilbur and Watauga reservoirs, 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 Wilbur and Watauga RLMP (Volume VI) and the NTRLMP EIS (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 (SMI), 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 as 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 WILBUR AND WATAUGA RESERVOIRS 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. Watauga Reservoir and most of Wilbur Reservoir are located within the Southern Sedimentary Ridges subregion of the Southern Blue Ridge ecoregion (SBRE). 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. The Cherokee Nation eventually occupied this area of Southern Appalachia. 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, tremendous population growth in the area expanded populations in the following cities: Johnson City, 55,469 people; Kingsport, 44,905 people; Bristol, Tennessee, 24,821 people; Bristol, Virginia, 17,367 people; Blountville, 2,959 people; Bluff City, 1,559 people; and Elizabethton, 13,372 people.

3.2. The Projects

3.2.1. Wilbur

John Curtis, a line rider for the Holston Telephone Company, formed the Doe River Light and Power Company to provide electricity to Elizabethton, Tennessee, shortly after the turn of the century. His company purchased land in 1907 and completed a hydroelectric dam, Wilbur, on the Watauga River in 1912. Two generating units were part of the original construction, with a third unit added in 1926. TVA acquired Wilbur Dam in 1945 and subsequently added another generating unit.

Wilbur Dam is 77 feet high and stretches 375 feet across the Watauga River. The generating capacity of Wilbur is 10,700 kilowatts of electricity. The Holston River Power Company on the South Fork Holston proposed four other hydroelectric dams. One was to be at Spurgeon, the same site later picked by TVA for Boone Dam.

3.2.2. Watauga

Watauga Dam is located on the Watauga River about 5 miles east of Elizabethton, Tennessee. It is an earth-and-rock-fill structure 318 feet high and 900 feet long. The powerhouse has an installed capacity of 57,600 kilowatts in two units. The reservoir extends 16.7 miles above the dam and provides 152,829 acre-feet of storage capacity. Construction of Watauga started on February 16, 1942, but the War Production Board ordered work stopped in October because it was considered nonessential to the war effort. Construction on Watauga resumed July 22, 1946, and the dam was completed on December 1, 1948. Generating Unit 2 was placed in commercial operation August 30, 1949, followed by Unit 1 on September 29, 1949. Water levels on Watauga Reservoir vary about 9 feet in normal years to provide for seasonal flood storage and for the augmentation of flows of water during other seasons.

Watauga Reservoir lies in Carter and Johnson counties in Tennessee. It forms a long, slender body of water extending in an easterly direction from the dam, and it has a shoreline of approximately 109 miles. When TVA constructed Watauga Dam and Reservoir, 761 families were displaced. Of these, 632 relocated in Carter or Johnson County and an additional 67 in the general area. Twenty-seven businesses were required to move, relocate, or discontinue, due to the Watauga project. Nine elementary schools and one high school had to be moved to make way for Watauga Reservoir. One hundred twenty-five homes were moved intact.

Of the 873 tracts acquired in fee, 266 were farms, which averaged 28.4 acres per tract. The fee purchase area included the town of Butler, Tennessee, a community at the confluence of the Watauga River and Roan Creek, which in 1940 had a population of 608. Purchase of all properties in the town, including all homes, stores, churches, schools, public buildings, and all town-owned public utilities, marked the first acquisition by TVA of an incorporated town. More than 200 individual properties were involved in this purchase, and the town's area, 857 acres or 1.3 square miles, represented more than one-half of the nonfarm fee area in the reservoir.

In the early stages of dam construction, TVA conferred with the people of Butler to determine whether there was any interest in relocating the town. After expressing their views in a detailed questionnaire, the townspeople finally decided that they were not interested in relocating to a new site.

A group of people from outside the town, joined by some of the residents of Butler, became interested in the establishment of a new community in the Watauga area. The group purchased land for a town site. They set up a community planning commission to prepare a town plan. They organized a cooperation to acquire, develop, subdivide, and sell real estate in the new community of Carderview, named for the Reverend M. H. Carder, one of the leaders of the project.

3.3. The Present Shoreland

3.3.1. *Physiographic Overview*

As stated above, Watauga Reservoir and most of Wilbur Reservoir are located within in the SBRE, with a small portion of Wilbur Reservoir located in the Ridge and Valley. The SBRE is one of the richest centers of biodiversity in the eastern United States and one of the most floristically diverse. This ecoregion includes the Appalachian oak forest, northern hardwoods, and at the highest elevations in Tennessee and North Carolina, the southeastern spruce-fir forest. Shrub, grass, and heath balds, hemlock, cove hardwoods, and oak-pine communities are also significant (Griffith et al. 1998).

Watauga and Wilbur reservoirs and surrounding lands are found within the Southern Sedimentary Ridges subregion of the SBRE. This area includes some of the westernmost foothills of the Blue Ridge Mountains. The slopes are steep and elevations are generally 1,000-4,500 feet. The soils are underlain by Cambrian-age sedimentary rocks and support mostly a mixed oak and oak-pine forest (Griffith et al. 1998).

3.3.2. *Land Use and Prime Farmland*

The percent of developed residential shoreland is approximately 20 percent on Watauga Reservoir. There is no available residential shoreland on Wilbur Reservoir. Because the majority of shoreland on Wilbur and Watauga reservoirs is under permanent easement to the USFS, there has been little or no development on the immediate shoreland or back-

lying land. However, new middle- and upper-income residential subdivisions are being developed adjacent to USFS property.

Combined, Wilbur and Watauga reservoirs have about 112 miles of shoreline. Of the 108 miles of total shoreline for Watauga, 44 percent is privately owned, flowage easement land, 4 percent is owned and managed by TVA, 51 percent is owned by TVA and jointly managed, and a fraction of a percent is TVA-owned Shoreline Access shoreland. Of the 4 miles of total shoreline for Wilbur, there is no privately owned flowage easement or TVA-owned Shoreline Access shoreland. Thirty-seven percent is owned by TVA and jointly managed, and 61 percent is owned and managed by TVA. TVA owns approximately 1,195 acres of combined shoreland on Wilbur and Watauga reservoirs shoreland, which total about 64 miles of shoreline. These 1,195 acres consist of property that is below the 1,980.0 maximum shoreline contour (MSC) on Watauga and below the 1,655 left bank (L) and 1,665 right bank (R) MSC on Wilbur, TVA-owned islands, and those properties extending to a back-lying severance line that separates private property from TVA property.

TVA has a flowage easement to the 1,655L/1,665R MSC on approximately 4 acres of Wilbur shoreland and to the 1,980.0 MSC on approximately 528 acres of Watauga shoreland. Any structures placed below these contours are subject to 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.

Figure 1 represents the percent of land acreage on Wilbur Reservoir that is allocated to each land use zone. Project Operations (Zone 2) comprised the largest portion (79 percent) of all zones allocated for Wilbur Reservoir. The second-largest zone allocation was for Natural Resource Conservation (Zone 4) at 15 percent. Sensitive Resource Management (Zone 3), Industrial (Zone 5), Developed Recreation (Zone 6), and TVA Shoreline Access (Zone 7) had no shoreland allocated to these zones. Privately owned, Non-TVA Shoreland (Zone 1) comprises 6 percent of shoreland on Wilbur Reservoir. However, no new reservoir land was allocated to this zone.

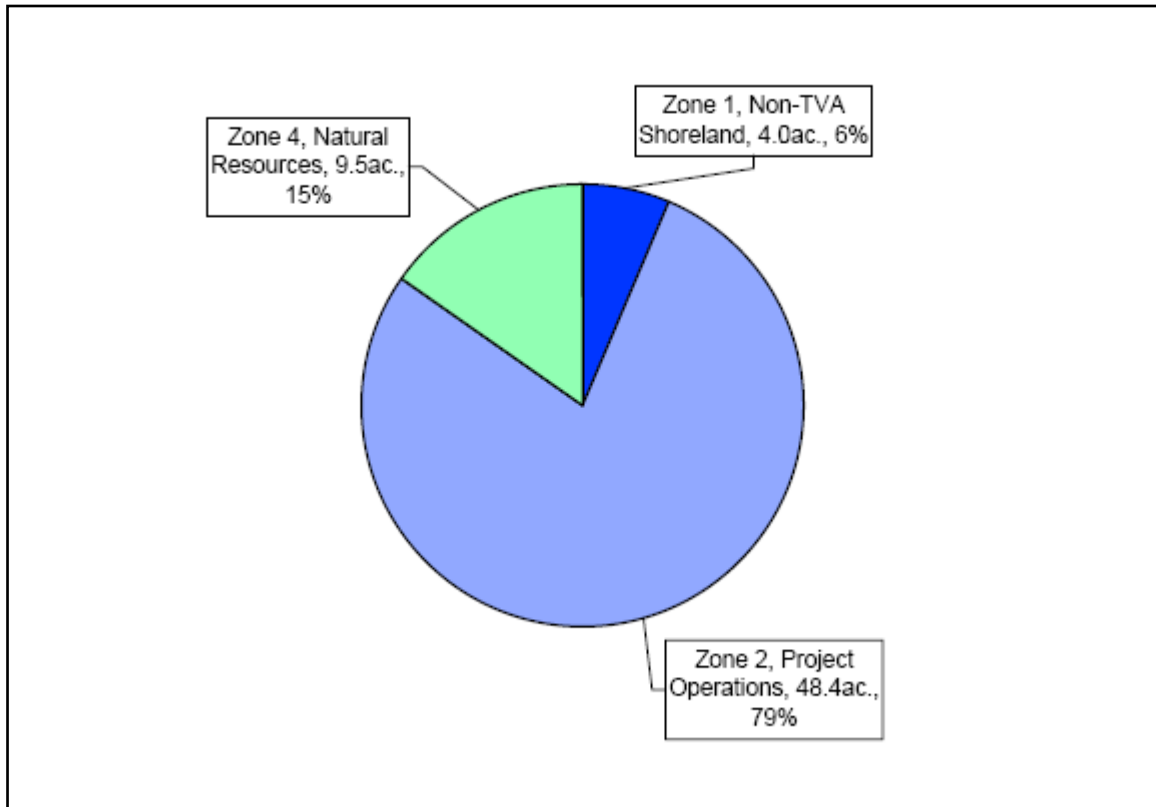


Figure 1. Percent of Wilbur Reservoir Acreage Allocated by Zone

Zone 2 (Project Operations) is all TVA reservoir land currently used for TVA operations and public works projects. Zone 2 is the largest acreage of TVA fee-owned property on Wilbur Reservoir; however, only two parcels are allocated to Zone 2. Parcel 6, the larger of the two, consists of the Wilbur Dam, hydroelectric power plant, and associated access roads. Parcel 2 is the right-descending bank of the Watauga River (River Miles [RMs] 33.5 to 34.0). The terrain along the right-descending bank contains rock outcroppings with excellent forest habitat. This shoreland is used primarily for fishing and dispersed recreation.

Approximately 9.5 acres of the 58 acres of TVA-owned property are allocated as Zone 4 (Natural Resource Conservation). Zone 4 is the second-largest acreage of TVA fee-owned property on Wilbur Reservoir. Zone 4 lands are managed for the enhancement of natural resources for human use and appreciation. The reservoir is a 75-acre, Tennessee Wildlife Resources Agency- (TWRA) designated State Wildlife Observation Area. It provides habitat for numerous species of waterfowl and shorebirds. A canoe launch for tailwater access is located on the Wilbur Dam Reservation. In addition, several areas of Wilbur shoreland front the back-lying USFS Big Laurel Branch Wilderness Area. In addition, the Horseshoe Church and former school property are located within the dam reservation but remain in ownership of private parties.

Figure 2 represents the percent of land acreage on Watauga Reservoir that is allocated to each land use zone. The largest zone allocation was for Project Operations (Zone 2) at 31 percent. Natural Resource Conservation (Zone 4) had the second-largest percentage of shoreland allocated at 26 percent. Sensitive Resource Management (Zone 3), Developed Recreation (Zone 6), and TVA Shoreline Access (Zone 7) ranged from less than 0.5 percent to 6 percent, while Industrial (Zone 5) had no shoreland allocated to this zone. Privately owned, Non-TVA Shoreland (Zone 1) comprised 33 percent of shoreland for Watauga Reservoir. As per the TVA Land Policy, no new reservoir land was allocated to this zone.

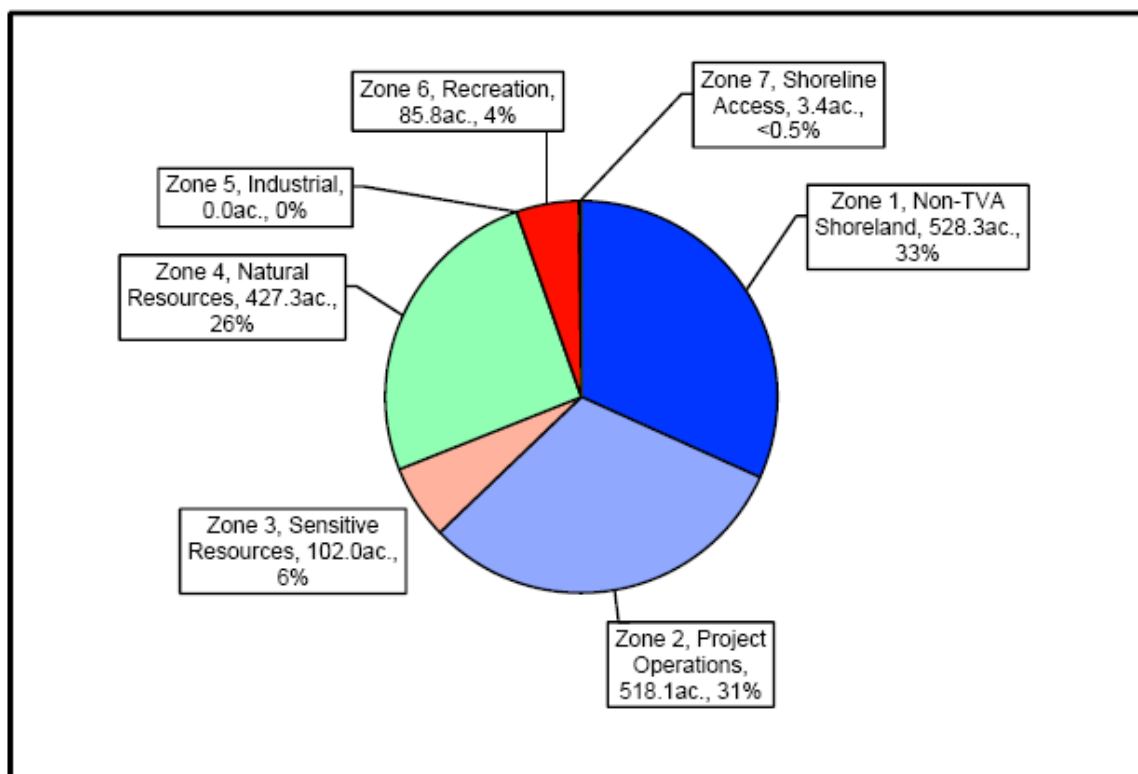


Figure 2. Percent of Watauga Reservoir Acreage Allocated by Zone

Zone 2 (Project Operations) is all TVA reservoir land currently used for TVA operations and public works projects. Zone 2 is the largest acreage of TVA fee-owned property on Watauga Reservoir. The Watauga Dam Reservation, Parcel 1, is the largest Zone 2 parcel. The dam reservation is forested woodland, which provides a variety of recreation activities, such as picnicking, bank fishing, canoe access, hiking, access to the Appalachian National Scenic Trail (AT), and wildlife viewing. The reservation also contains several buildings associated with power production from Watauga Reservoir—for instance, the Watauga Dam, control building, powerhouse, switchyard, and hydropower production maintenance building, as well as numerous power transmission lines. Additional facilities located on the dam reservation are Watauga Dam Visitors Center, restrooms, and maintenance facilities.

In addition, a developed campground is located on the right bank of the Watauga River below Watauga Dam.

Zone 3 (Sensitive Resource Management) are lands 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. Collectively, Parcels 2-6 comprise the largest acreage allocated to Zone 3. These parcels are marginal strips of land that support sensitive plant resources and globally rare plant communities. In addition, Williams Island, Parcel 21, comprises 18 acres of the total land allocated to Zone 3 due to high-quality wetlands, exceptional wildlife habitat, and plant diversity.

Approximately 427 acres of the 1,137 acres of TVA-owned property are allocated as Zone 4 (Natural Resource Conservation). Zone 4 is the second-largest acreage of TVA fee-owned property on Watauga Reservoir. Zone 4 lands are managed for the enhancement of natural resources for human use and appreciation. The majority of Watauga shoreland has a permanent easement for the use and benefit of the USFS. These marginal strips of shoreland front land that TVA had previously transferred to the USFS for administration. The marginal strips range from less than an acre to 85 acres and provide opportunities for hunting, fishing, and activities associated with dispersed recreation. Pine Bottom, Parcel 23, is the largest parcel allocated to Zone 4 at 118 acres and is managed by TVA. This parcel receives a significant amount of dispersed recreational use.

Zone 6 (Developed Recreation) consists of TVA lands that have been developed for recreational purposes, such as public launching ramps or county parks. Twelve of the 59 Watauga parcels support developed recreation. The USFS manages 7 of the 12 parcels as developed recreation areas; four parcels are allocated to Zone 6 due to contractual agreements between TVA and private individuals, and the remaining parcel is an old roadbed that serves as a developed launching ramp.

Zone 7 (Shoreline Access) comprises 3.5 acres of the total 1,137 acres on Watauga 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 property owner possesses deeded rights of access, and where the proposed use would not conflict with the interests of the public.

While there is no prime farmland on Wilbur Reservoir, the Watauga Reservoir contains approximately 12.4 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 United States Department of Agriculture (USDA). These 12.4 acres occur in Zone 3 (Sensitive Resource Management),

which is managed for the protection of natural resources. For detailed 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 Wilbur and Watauga reservoirs. Developed recreation provides modern facilities and amenities on shoreline properties such as campgrounds, 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), as developed recreation facilities occur on Watauga 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; primitive 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 Wilbur and Watauga reservoirs include six campgrounds, seven marinas, nine developed boat launches/ramps, and a myriad of day use facilities including five picnic areas, three swimming areas, one fishing pier, one playground, and one basketball court. Wilbur and Watauga reservoirs parcel descriptions (see Section 4.0) further describe the management entity and management prescription of recreation facilities on these lands managed either by TVA or under contractual agreement to another government entity or commercial operator. Tables 2 and 3 itemize 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. Tables 2 and 3 do not itemize privately owned/operated facilities adjacent to Wilbur and Watauga shoreland, because they are private and beyond the scope of this RLMP.

Table 2. Developed Recreation Area on TVA Lands on Wilbur Reservoir

Recreation Area	Managing Entity	Location
Dam Reservation	TVA	Parcel 2

Table 3. Developed Recreation Areas on TVA Lands on Watauga Reservoir

Recreation Area	Managing Entity	Location
Dam Reservation	TVA	Parcel 1
Red Hill Road Ramp	TVA	Parcel 10
Butler Park	Johnson County, Tennessee	Parcel 15
Bayview Campground	Private	Parcel 15
Sink Creek Ramp	USFS	Parcel 18
Pioneer Landing Camp and Marina	USFS	Parcel 28
Little Milligan Ramp	USFS	Watauga River Mile 45.9 L
Watauga Point Recreation Area	USFS	Parcel 51
Carden's Bluff Campground	USFS	Parcel 55
Rat Branch Ramp	USFS	Parcel 57
Shook Branch Recreation Area and Ramp	USFS	Parcel 58

TVA manages two dispersed recreation areas with two sites on Watauga Reservoir. These areas are located on Parcels 8 and 23. There are no dispersed recreation sites on Wilbur Reservoir. A site is defined as an area of impact where a recreation activity occurs; an area is the sum of the sites near one another on a TVA parcel. For further description of these parcels, see Watauga Reservoir parcel descriptions in Section 4.0.

Dispersed recreation areas on Watauga Reservoir were assessed, and analysis of the data qualified Parcel 23 (Pine Bottom) as beyond the biophysical "Limits of Acceptable Change" (LAC). Areas that exceeded the LAC may be prioritized by the watershed team and proposed for improvements. For detailed information on recreation, see Volume I, Section 3.3.

3.3.4. Terrestrial Ecology

The Southern Blue Ridge ecoregion contains the largest area of contiguous, mature forest habitat in the eastern U.S. (Franzreb and Phillips 1995). Deciduous forests and mixed evergreen-deciduous forests provide wildlife habitat among the intense agriculture and urban sprawl. Forests in the Southern Blue Ridge ecoregion provide globally significant habitat for many species especially amphibians and land snails (Ricketts et al. 1996).

Oak-hickory forest is the most abundant forest type in the eastern U.S. (Flather et al. 1999) and is prevalent in the Wilbur/Watauga reservoirs 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 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.

A globally rare (G1) plant community was found along the north shore of Watauga Reservoir. A G1 ranked community is considered critically imperiled globally. This community is termed the Carolina Hemlock (Eastern Hemlock)/Great Laurel Forest. According to NatureServe (2008), Carolina Hemlock forests are found on valley bottoms, gorge slopes, or other protected landforms. Eastern Hemlock or white pine may share the canopy with Carolina Hemlock. The shrub layer is typically dense and dominated by laurel rhododendron thickets, and galax is a common understory component. Carolina Hemlock communities, in general, have a restricted range, occurring only in the Southern Blue Ridge and upper Piedmont and are probably endemic to North Carolina and Tennessee. Occurrences are typically small and restricted to rocky bluff habitats. All occurrences are threatened by fire suppression and the hemlock woolly adelgid (*Adelges tsugae*), an exotic pest that causes tree decline and ultimate death in both Carolina and Eastern Hemlock (NatureServe 2008). During field reviews, this community type was scattered along the north shore of Watauga Reservoir on Parcels 2, 3, 4, 5, and 6. Hemlock woolly adelgid was also observed on both hemlock species.

A small isolated area of Evergreen Woodland was found near Parcel 24 on Watauga Reservoir. The Northern White Cedar Limestone Seepage Woodland, ranked G2/G3 (G2 = imperiled globally; G3 = globally rare or uncommon), is found on cliffs, associated with seepage over limestone or dolomite. Stands are dominated by Northern White Cedar and may contain several rare plant species such as showy lady's slipper, starry Solomon's plume, and shining ladies tresses (NatureServe 2008). For detailed information on terrestrial ecology, see Volume I, Section 3.5.

3.3.5. Invasive Nonnative Species

Most of the TVA parcels around Wilbur and Watauga reservoirs 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 Wilbur and Watauga. 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 searches are presented in Table 4.

Table 4. Federally Listed and State-Listed Species Within and Near Wilbur and Watauga Reservoirs

Common Name	Scientific Name	Federal Status	State Status*	State Rank
Common Barn Owl	<i>Tyto alba</i>	--	NMGT	S3
Common Raven	<i>Corvus corax</i>	--	THR	S2
Swainson's Warbler	<i>Limnothlypis swainsonii</i>	--	NMGT	S3
Virginia Big-Eared Bat	<i>Corynorhinus townsendii virginianus</i>	LE	END**	S1
Allegheny Woodrat	<i>Neotoma magister</i>	--	NMGT	S3
Common Shrew	<i>Sorex cinereus</i>		NMGT	S4
Carolina Northern Flying Squirrel	<i>Glaucomys sabrinus coloratus</i>	LE	END	S1
Cupped Vertigo	<i>Vertigo clappi</i>	--	TRKD	S1
Spruce-Fir Moss Spider	<i>Microhexura montivaga</i>	LE	NOST	S1
Carter Threetooth	<i>Triodopsis anteridon</i>	--	TRKD	S1/S2
Hellbender	<i>Cryptobranchus alleganiensis</i>	--	NMGT	S3
Weller's Salamander	<i>Plethodon welleri</i>	--	NMGT	S1

Common Name	Scientific Name	Federal Status	State Status*	State Rank
Bog Turtle	<i>Glyptemys muhlenbergii</i>	LT	THR	S1
Banded Sculpin	<i>Cottus carolinae</i>	--	THR	S1
Tangerine Darter***	<i>Percina aurantiaca</i>	--	NMGT	S3
Tennessee Dace	<i>Phoxinus tennesseensis</i>	--	NMGT	S3
Green Floater	<i>Lasmigona subviridis</i>	--	END	S1
American Ginseng	<i>Panax quinquefolius</i>	--	S-CE	S3/S4
Appalachian Cliff-Fern	<i>Woodsia scopulina var. appalachiana</i>	--	SPCO	S1/S2
Appalachian Gentian	<i>Gentiana austromontana</i>	--	SPCO	S3
Branching Bur-Reed	<i>Sparganium androcladum</i>	--	END	S1
Branching Whitlow-Wort	<i>Draba ramosissima</i>	--	END	S2
Carolina Hemlock	<i>Tsuga caroliniana</i>	--	THR	S3
Climbing Fumitory	<i>Adlumia fungosa</i>	--	THR	S2
Fraser's Sedge	<i>Cymophyllus fraserianus</i>	--	SPCO	S3
Naked-Fruited Rush	<i>Juncus gymnocarpus</i>	--	SPCO	S3
Northern White Cedar	<i>Thuja occidentalis</i>	--	SPCO	S3
Pale Corydalis	<i>Corydalis sempervirens</i>	--	END	S1/S2
Pink Lady's Slipper	<i>Cypripedium acaule</i>	--	S-CE	S4
Rough Avens	<i>Geum laciniatum</i>	--	SPCO	S1
Sapsuck	<i>Buckleya distichophylla</i>	--	THR	S2
Saxifrage	<i>Saxifraga caroliniana</i>	--	THR	S1/S2
Sedge	<i>Carex hitchcockiana</i>	--	THR	S1
Shining Ladies Tresses	<i>Spiranthes lucida</i>	--	THR	S1/S2
Showy Lady's Slipper	<i>Cypripedium reginae</i>	--	THR	S1
Steele's Joe-pye Weed	<i>Eupatorium steelei</i>	--	SPCO	S3
Virginia Heartleaf	<i>Hexastylis virginica</i>	--	SPCO	S2
White Camas	<i>Zigadenus glaucus</i>	--	END	S1

Federal status abbreviations: LE = Listed endangered; Listed threatened

State status abbreviations: END = Endangered; NMGT = In need of management; NOST = No status; S-CE = Special concern-commercially exploited (plants); SPCO = Species of concern; THR = Threatened; TRKD = Tracked by State Natural Heritage Program

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

* Tennessee record unless otherwise specified

**North Carolina record

***Indicates a historic record in Wilbur Tailwater and extant records in Watauga Reservoir and its tributaries.

3.3.6.1. Plants

Field surveys and reviews of the TVA Natural Heritage database did not indicate any federally listed endangered or threatened plant species within 5 miles of Wilbur and Watauga reservoirs. During field surveys, previously undocumented populations of Virginia heartleaf (special concern) were found on Watauga Reservoir (Parcel 50) and Carolina hemlock (threatened) on Watauga Reservoir (Parcels 2 and 5a). For detailed information on plant communities, see Volume I, Section 3.6.

3.3.6.2. *Terrestrial Wildlife*

Field surveys and reviews of the TVA Natural Heritage database indicated that three federally listed endangered species, one federally listed threatened species, and nine Tennessee state-listed species occur within and near Wilbur and Watauga reservoirs. For detailed information on terrestrial wildlife, see Volume I, Section 3.6.

3.3.6.3. *Aquatic Wildlife*

One record of the Tennessee state-listed tangerine darter is known from the tailwater downstream of Wilbur Dam. However, this record is historic, and the tangerine darter has not been reported from near Wilbur Dam in over 100 years. No other state-listed aquatic species are known from Wilbur Reservoir.

Four state-listed aquatic species currently are known from Watauga Reservoir and its tributaries. These include banded sculpin, green floater, tangerine darter, and Tennessee dace.

The banded sculpin occurs in a variety of habitats from small springs to large upland rivers (Etnier and Starnes 1993). Records of banded sculpin have been reported from the Elk River, a tributary to Watauga Reservoir. The banded sculpin could potentially occur near Parcel 30, which lies near the transitional area of Watauga Reservoir where riverlike conditions persist.

The tangerine darter typically occurs in clearer portions of large- to moderate-sized headwater tributaries to the Tennessee River (Etnier and Starnes 1993). Two records are known from tributaries to Watauga Reservoir and could potentially occur near Parcels 17 and 23.

The Tennessee dace is restricted to small (6 feet wide or less) low-gradient streams. One record is known from a small tributary to Watauga Reservoir. However, the Tennessee dace could potentially occur on any parcels with small streams.

Parmalee and Bogan (1998) reported that the green floater is highly localized in Tennessee, only occurs in two or three river miles of the Watauga River, and upstream of Watauga Dam. Although the Watauga River is a tributary to Watauga Reservoir, the green floater is not expected to occur near any parcels, due to its highly localized nature. For detailed information on aquatic wildlife, see Volume I, Section 3.6.

3.3.7. **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.

According to TVA Rapid Assessment Method, which is a version of the Ohio Rapid Assessment Method (Mack 2001) designed specifically for the TVA region, wetlands may be classified into three categories. Category 1 wetlands are considered “limited quality waters” and represent degraded aquatic resources. Category 2 includes wetlands of moderate quality and wetlands that are degraded but have reasonable potential for restoration. Category 3 generally includes wetlands of very high quality or of regional/statewide concern, such as wetlands that provide habitat for threatened or endangered species.

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*, Wilbur Reservoir has approximately 28 acres of wetland habitat, and Watauga Reservoir has approximately 783 acres of wetland habitat.

Forested, scrub-shrub, and emergent wetlands are uncommon on Wilbur and Watauga reservoirs due to the steep topography of the reservoir shorelines. There are nine uncommitted parcels on these two reservoirs. No wetlands are present on Wilbur’s one uncommitted parcel. On Watauga, wetlands are present on Parcels 11, 26, 31, and 32. Parcel 11 contains a small (<0.10 acre) shoreline strip of black willow that is classified as a Category 2, moderate-quality scrub-shrub wetland. Parcel 26 contains a high-quality/Category 3 emergent/scrub-shrub wetland. The habitat on this parcel is relatively diverse and contains a mix of black willow, sycamore, red osier dogwood, and soft rush. Parcels 31 and 32 also contain high-quality/Category 3 wetlands. A mix of forested and scrub-shrub habitats, these small wetlands are comprised of black willow, slippery elm, sycamore, and persimmon. For detailed information on wetland resources, see Volume I, Section 3.7.

3.3.8. Floodplains

Wilbur Reservoir

The area impacted by the RLMP extends from the lower limit of TVA’s property at about Watauga RM 33.4 upstream to about Watauga RM 35.0 in Wilbur Reservoir. Wilbur Dam is located at Watauga RM 34.0. The 100-year floodplain is the area that would be inundated by the 100-year flood.

The 100-year flood elevations for the Watauga River downstream of Wilbur Dam vary from 1,584.8 feet mean sea level (msl) at RM 33.4 to elevation 1,587.4 feet msl at the downstream side of Wilbur Dam. The 500-year flood elevations for the Watauga River

downstream of Wilbur Dam vary from 1,585.3 feet msl at RM 33.4 to elevation 1,587.8 feet msl at the downstream side of Wilbur Dam.

In Wilbur Reservoir, the 100- and 500-year flood elevations for the Watauga River upstream of Wilbur Dam are 1,650.0 feet msl. TVA does not know how far upstream of Wilbur Dam these flood elevations control. Tabulations of the 100- and 500-year flood elevations are included in Volume I, Appendix G.

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

Watauga Reservoir

The area impacted by the RLMP extends from the lower limit of TVA's property at about Watauga RM 35.0 upstream to about Watauga RM 52.9 in Watauga Reservoir. Watauga Dam is located at Watauga RM 36.7. The 100-year floodplain is the area that would be inundated by the 100-year flood. TVA has no flood information for the area downstream of Watauga Dam.

In Watauga Reservoir, the 100-year flood elevation for the Watauga River upstream of Watauga Dam is 1,967.0 feet msl. The 500-year flood elevation for the Watauga River upstream of Watauga Dam is 1,974.5 feet msl. We do not know how far upstream of Watauga Dam these flood elevations control. 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.

3.3.9. Cultural and Historic Resources

Wilbur Reservoir

No archaeological surveys or investigations have been previously conducted within Wilbur Reservoir. Archaeological sites are likely located in similar environments and consist of similar material culture as compared to the nearby Watauga Reservoir. For detailed information on cultural and historic resource review process, see Volume I, Section 3.9.

Watauga Reservoir

In the Watauga Reservoir area, archaeological research funded by TVA began with investigations of the old town of Butler, which was inundated by the creation of the Watauga Reservoir. Investigations included a blacksmith's shop, the Butler Baptist Church, and a casket manufacturing locale. To date, the University of Tennessee, Department of Anthropology, under contract with TVA (Boyd 1985), conducted the most comprehensive research and inventory within the Watauga Reservoir area. The survey resulted in the identification of 121 historic and prehistoric archaeological sites. Ten of the archaeological sites received more in-depth archaeological investigations in order to better characterize the prehistory and history of the Watauga Reservoir area. A subsequent small-scale

survey, conducted near the new town of Butler, identified one prehistoric archaeological site consisting of scattered stone tool debris (Franklin 2005). The University of Tennessee for the current land plan (Gage 2008) conducted the most recent archaeological survey. The survey resulted in the identification of one archaeological site, a small, moderately dense scatter of prehistoric stone tool debris. A nearby stone mound may be associated with the site. For detailed information on the cultural and historic resource review process, see Volume I, Section 3.9.

3.3.10. Managed Areas and Sensitive Ecological Sites

Natural areas include managed areas, ecologically significant sites, and Nationwide Rivers Inventory streams. *Managed 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 (NRI)* streams are free-flowing segments of rivers recognized by the National Park Service (NPS) as possessing outstandingly remarkable natural or cultural values.

Natural areas adjacent to Wilbur and Watauga reservoirs include USFS lands, city and state parks, and the Appalachian Trail (AT). The TVA Natural Heritage database indicated that none of the natural areas on Wilbur and Watauga reservoirs are managed by TVA Natural Areas Program. 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 Wilbur Reservoir are identified in Tables 5 and 6 for Wilbur and Watauga reservoirs. For detailed information on managed areas and sensitive ecological sites, see Volume I, Section 3.10.

Table 5. Natural Areas On, Adjacent To, or Within 3 Miles of Wilbur Reservoir

Natural Area	Steward	Location
Wilbur Cliffs (ecologically significant site)	USFS	Parcels 3, 4, 5, 6
Wilbur Lake State Wildlife Observation Area	TWRA	Reservoir surrounded by Parcels 2, 3, 4, 5, 6
AT	AT Conservancy	Watauga Parcel 1
Cherokee National Forest	USFS	Watauga Parcels 2-6, 13, 43-47, 49-59*
Big Laurel Branch Wilderness Area	USFS	Parcels 3 and 4*
Hunter Bog Registered State Natural Area	Tennessee Department of Environment and Conservation	3.0 miles northwest*

* Distance to nearest point on the reservoir

Table 6. Natural Areas On, Adjacent To, or Within 3 Miles of Watauga Reservoir

Natural Area	Steward	Location
Wilbur Cliffs Ecologically Significant Site	USFS	Wilbur Parcels 3, 4, 5, 6
AT	Tennessee Eastman Hiking and Canoe Club/Appalachian Trail Conservancy	Parcels 1 and 59
Watauga River (NRI stream)	NPS	@ Parcel 25
Watauga River Potential National Natural Landmark	NPS	@ Parcel 25
Watauga Lake Rare Plant Ecologically Significant Site	TVA	Non parcel specific
Cherokee National Forest	USFS	Parcels 2-6, 13, 17-19, 27-30, 33-36, 38, 40, 42-47, 49-59*
Pond Mountain Wilderness Area	USFS	0.02 mile southeast*
Watauga Scenic Area	USFS	0.02 miles southeast*
Big Laurel Branch Wilderness Area	USFS	Watauga Reservoir Parcels 2-6,8; Wilbur Parcels 3,4
Griffith Branch Cove	USFS	0.02 miles West*
Wilbur Lake State Wildlife Observation Area	TVA and TWRA	Wilbur Reservoir surrounded by Parcels 2, 3, 4, 5, 6
North Cherokee Wildlife Management Area	TWRA	3.0 miles south*
Walnut Mountain (ecologically significant site)	USFS	2.8 miles south*
Doe River (NRI stream)	NPS	3.0 miles southwest*
Doe River Gorge Scenic Area	USFS	3.0 miles southwest*
Pisgah National Forest	USFS	0.9 mile southeast*
Doe Branch Ditch Ecologically Significant Site	TDOT	0.8 mile northwest*

* Distance to nearest point on the reservoir

3.3.11. Water Quality

Data collected under TVA's Reservoir Ecological Health Monitoring Program is used to characterize water quality in the NTRs. Due to the small size and operational characteristics of Wilbur Reservoir, it is not included in the Reservoir Ecological Health Monitoring Program. This section describes water quality information for Watauga Reservoir.

Watauga Reservoir usually scores "good" or at the high end of the "fair" range. Dissolved oxygen concentrations are not as severely depressed, and chlorophyll concentrations are lower than those found on other reservoirs. Two factors help explain better water quality conditions in Watauga. First, there is less development in the surrounding area in comparison to the other reservoirs. Second, the drainage basin for Watauga Reservoir is in the Blue Ridge ecoregion (characterized by nutrient-poor soils); whereas, the other reservoirs in this watershed are in the Ridge and Valley ecoregion.

Watauga Dam impounds the Watauga River at RM 36.7. It forms a pool 16 miles in length, approximately 6,400 acres in surface area, about 274 feet deep at the dam, and an average depth of about 89 feet. With an annual average discharge of about 720 cubic feet per second, Watauga Reservoir also has the longest hydraulic residence time (the length of time the water sits in the reservoir) at about 325 days.

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 3 shows the reservoir ecological health scores for Watauga Reservoir from 1994 through 2006. Areas sampled on Watauga Reservoir include the forebay at Watauga RM 37.4 and the transition zone at Watauga RM 45.5.

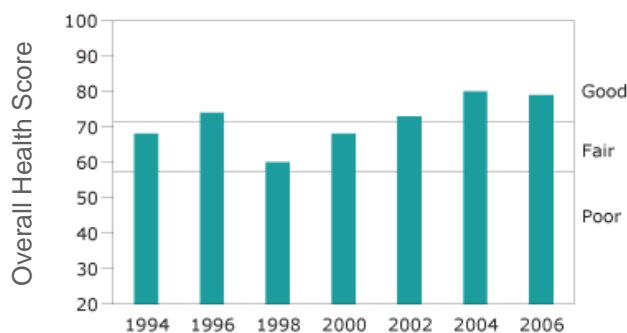


Figure 3. Watauga Reservoir Ecological Health Ratings, 1994-2006

The overall ecological health condition for Watauga Reservoir usually rates “good” or at the upper end of the “fair” range. The lowest reservoir score (approximately 60) occurred in 1998 and was primarily the result of several indicators concurrently rating at the lower end of their historic range rather than a substantial change in any indicator(s).

Chlorophyll ratings have been consistently “good” throughout the monitoring period. Dissolved oxygen has rated “good” or at the upper end of the “fair” range at the forebay and “fair” or “poor” at the transition zone except in 2004 when it rated “good.” Low dissolved oxygen concentrations are usually present in the lower water column at the transition zone location from late August through October of each year. The sediment ratings for both locations depend on the presence/absence of chlordane, a pesticide previously used to control termites and crop pests. Chlordane was detected in 1993 and 1998 at the forebay and each year monitored from 1993 through 2004 at the transition zone. Year 2006 was the first time chlordane was not detected at the transition zone. The typical ratings for dissolved oxygen, chlorophyll, and sediment monitored as part of the Reservoir Ecological Health Monitoring Program data, 1991-2007, for all NTRs, is available in Volume I, Section 3.12.

3.3.12. Aquatic Ecology

Unimpounded rivers of the Southern Blue Ridge ecoregion, such as the Watauga River upstream of Watauga Reservoir, are typically entrenched, high-gradient channels primarily with cobble and gravel substrates and frequent boulders (Arnwine et al. 2005). 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 Watauga 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.

Watauga Reservoir is formed within the impounded sections of Roan Creek and the confluence of the Watauga River and the Elk River. Wilbur Reservoir is formed by the tailwater of Watauga Reservoir. 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 Watauga and Wilbur Reservoirs and their tailwaters are 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 from activities on lands adjacent to the reservoirs, and the operation of the reservoirs.

3.3.12.1. 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 Watauga Reservoir 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).

Wilbur Dam penstocks are not located on the bottom of the reservoir; however, Wilbur Reservoir itself is a very small "flow-through" reservoir directly downstream of Watauga Reservoir. Watauga does stratify and releases cold dissolved oxygen-deprived water into Wilbur Reservoir, thereby having a great deal of influence on the water quality conditions

both in Wilbur Reservoir and in Wilbur tailwater. Therefore, for this analysis, Watauga and Wilbur reservoirs will be discussed as one.

Both RFAI and benthic community samples were taken in the forebay area (near the dam) and in the transition zones of the Watauga River. Samples are usually taken on a two-year cycle. The overall ecological condition in Watauga Reservoir rated poor in 2006, which is similar to most previous years except for 2004 when no contaminants were detected in the sediment collected from the reservoir bottom at either monitoring location. Low ratings for two indicators (dissolved oxygen and benthos) consistently reduce the reservoir's overall health score.

Available RFAI and reservoir benthic community score results for Watauga Reservoir are presented below in Table 7. The RVSMP data for all NTRs are available in Volume I, Section 3.13.

Table 7. RFAI and Benthic Community Scores Collected Between 1995 and 2007 in the Watauga Reservoir as Part of the Reservoir Vital Signs Monitoring Program

Year	RFAI Scores		Benthic Community Scores	
	Forebay	Transition	Forebay	Transition
2000	Fair	Fair	Poor	Fair
2002	Fair	Good	Poor	Fair
2004	Fair	Fair	Poor	Fair
2006	Fair	Good	Fair	Fair

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

3.3.12.2. 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 resources 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 Watauga Reservoir are presented in Table 8.

**Table 8. 2007 Sport Fishing Index
Scores for Selected Sport Fish
Species on Watauga Reservoir**

Species	Score	Valleywide Average
Black Bass	32	36
Spotted Bass	30	33
Largemouth Bass	32	33
Smallmouth Bass	32	30
Walleye	30	34

Cold, hypolimnetic releases from Wilbur and Watauga Dams supports well-established, year-round trout fisheries in the tailwaters. The downstream area generally has habitats and food bases, which can support large carrying capacities and allow trout to grow larger than they normally do elsewhere. The tailwaters are typically stocked by TWRA with fingerlings in the early spring and adult fish (catchables) throughout the summer. Adults supplement the catch during peak angling season and by fall, fingerlings have begun to enter these fisheries. Recruitment of natural reproduction (mostly by brown trout) contributes substantially to the fishery in the Watauga tailwater and, to a lesser extent, in the Wilbur (Watauga River) tailwater, which supports a 16-mile fishery for rainbow and brown trout before it enters Boone Reservoir (Habera et al. 2003a; 2003b). Brook trout fingerlings were added to the Wilbur tailwater-stocking program in 2001. Watauga tailwater receives just over 200,000 trout annually, most of which are rainbows.

3.4. The Future

Even though the majority of shoreland is under permanent easement to the USFS, growth and development will still have an impact on the natural resources of Wilbur and Watauga reservoirs. In addition to habitat degradation, development adjacent to forested lands may potentially increase fire risk (for homeowners and the habitat), increase forest fragmentation, impair water quality, and decrease biodiversity.

Trends and issues that extend far beyond the shoreline, will affect the future of Wilbur and Watauga reservoirs. Population growth within the upper east Tennessee region, land development and community planning practices, growing tourism, and recreational economy, a growing diversity of recreational pursuits, as well as developments in upstream portions of the Watauga watershed all will affect the quality of experience Wilbur and Watauga reservoirs provide. 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 Wilbur and Watauga reservoirs can be found below in Tables 9, 10a, and 10b, which are the parcel information matrices that coincide with the Wilbur and

Watauga Reservoir map panels 1 and 2. These tables identify each parcel number, allocation zone, number of acres, and parcel description. Non-TVA Shoreland (Zone 1) totals 4 acres on Wilbur Reservoir and 528 acres on Watauga Reservoir. These Zone 1 acreages are not included in Tables 9, 10a, and 10b, because it is shoreland that TVA does not own in fee or land that TVA never purchased.

Table 9. Wilbur Reservoir Parcel Allocations

Parcel Number	Zone Allocations						WILBUR RESERVOIR Description
	Acres	2	3	4	5	6	
1	5.9			●			Horseshoe Chapel
2	17.7	●					Dam Reservation
3	1.1			●			Marginal Strip Bluff (Fronting USFS)
4	1.7			●			Horsehoe Bend (Fronting USFS)
5	0.8			●			Marginal Strip (Fronting USFS)
6	30.7	●					Dam Reservation
Total	57.9						
	Committed Land - Under current agreement, used for project operations, with sensitive resources, or fronting public recreation land.						
	Uncommitted Land - Land that is considered "Plannable".						

Table 10a. Watauga Reservoir Parcel Allocations (1 of 2)

Parcel Number	Acres	Zone Allocations						WATAUGA RESERVOIR - Table 1 of 2 Description
		2	3	4	5	6	7	
1	508.7	●						Watauga Dam Reservation
2	5.8		●					Marginal Strip (Fronting USFS)
3	2.3		●					AT Trail Marginal Strip
4	31.5		●					Marginal Strip (Fronting USFS)
5	14.1		●					Ham Smith Branch Marginal Strip
6	24.7		●					USFS Marginal Strip
7	2.3						●	Palmer Sampson Subdivision
8	21.3			●				Point 8 Pines
9	1.9					●		Cove Ridge Marina
10	0.2					●		Red Hill Road Ramp
11	10.2			●				Red Hill Road.
12	0.9						●	Cove Ridge Subdivision
13	33.4			●				Marginal Strip (Fronting USFS)
14	0.1	●						Hwy 67 Bridge
15	2.8					●		Butler Park / Bayview Campground
16	8.1			●				Pappy's
17	80.1			●				Marginal Strip (Fronting USFS)
17a	3.0					●		Sink Mountain Ramp 1 (USFS)
18	0.9					●		Sink Mountain Ramp 2 (USFS)
19	6.1			●				Marginal Strip (Fronting USFS)
20	1.8			●				Roan Creek Road
21	18.7		●					Williams Island
22	17.3			●				Meal Camp Hollow Marginal Strip
23	118.3			●				Pine Bottom
24	9.1	●						Transmission Line
25	3.3		●					Pine Knob
26	0.7		●					Bunton
27	1.0			●				Marginal Strip (Fronting USFS)
28	3.4					●		Pioneer Landing Camp/Marina (USFS)
29	4.8			●				Marginal Strip (Fronting USFS)
30	13.0			●				Marginal Strip (Fronting USFS)
Total	950.2	Total Watauga Reservoir Acres = 1,134						
	Committed Land - Under current agreement, used for project operations, with sensitive resources, or fronting public recreation land.							
	Uncommitted Land - Land that is considered "Plannable".							

Table 10b. Watauga Reservoir Parcel Allocations (2 of 2)

Parcel Number	Zone Allocations							WATAUGA RESERVOIR - Table 2 of 2 Description
	Acres	2	3	4	5	6	7	
31	0.2		●					Row Branch
32	0.5		●					Hwy 321
33	12.4			●				Marginal Strip (Fronting USFS)
34	4.4			●				Marginal Strip (Fronting USFS)
35	0.5			●				Campbell Hollow
36	6.8			●				Marginal Strip (Fronting USFS)
37	0.1						●	Hank Johnson Subdivision
38	2.1			●				Marginal Strip (Fronting USFS)
39	0.1						●	Hank Johnson Cabin Sites
40	0.7			●				Marginal Strip (Fronting USFS)
41	3.5			●				Dr. Cole
42	4.6			●				Marginal Strip (Fronting USFS)
43	3.6			●				Marginal Strip (Fronting USFS)
44	0.2			●				Butler Bridge Marginal
45	0.1	●						Hwy 67 Bridge
46	26.2			●				Marginal Strip (Fronting USFS)
47	0.6			●				Fish Springs Marginal
48	2.1						●	Fish Springs Marina
49	18.7			●				Marginal Strip (Fronting USFS)
50	9.1						●	Little Stoney Creek
51	10.7						●	Watauga Point Recreation Area (USFS)
52	7.7			●				Marginal Strip (Fronting USFS)
53	11.9						●	Lakeshore Dock
54	14.6			●				Y's Men
55	8.2						●	Carden Bluff Campground (USFS)
56	5.6			●				Marginal Strip (Fronting USFS)
57	6.5						●	Rat Branch Ramp (USFS)
58	4.8						●	Shook Branch Day Use Area (USFS)
59	20.1						●	Marginal Strip (Fronting USFS)
Total	186.6	Total Watauga Reservoir Acres = 1,134						
	Committed Land - Under current agreement, used for project operations, with sensitive resources, or fronting public recreation land.							
	Uncommitted Land - Land that is considered "Plannable".							

4.0 PARCEL DESCRIPTIONS

4.1. Wilbur Reservoir Parcel Descriptions

(See exhibit map)

Note: Parcel descriptions have the total acreage listed that lies above the 1,650.0-foot median shoreline contour for Wilbur Reservoir. 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.

Parcel 1: 5.9 Acres
Common Name: Horseshoe Chapel
Allocation: Zone 4 (Natural Resource Conservation)
Hydrologic Unit: TN-06010103-080
County: Carter, Tennessee
Stream: Watauga River Mile 33.4 Left and Right Banks

General Description:

Parcel 1 is located downstream of Wilbur Dam. The terrain along the left-descending bank contains a steep slope with saw-timber-sized upland and cove hardwood, primarily yellow poplar, oaks, hickory, and black walnut. The right-descending bank is a reverted field, which is now occupied by black locust, Virginia pine, and green ash. Green ash and sycamore are prevalent along both stream banks. This parcel has excellent riparian zone vegetation. Rock outcroppings and forest provide excellent wildlife habitat, as well as a buffer to the river. Wilbur Reservoir is a 75-acre, Tennessee Wildlife Resources Agency- (TWRA) designated State Wildlife Observation Area. It provides habitat for numerous species of waterfowl and shorebirds. This parcel was placed in Zone 4 to protect important wildlife habitat and shoreline vegetation.

Private water use facilities will not be considered.

Sensitive Resources:

During field reviews, no sensitive resources were identified on this parcel.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: Public Recreation

Parcel 2 **17.7 Acres**
Common Name: **Dam Reservation**
Allocation: **Zone 2 (Project Operations)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 33.5 – 34.0 Right and Islands*

General Description:

Parcel 2 is located along the right-descending bank of Watauga River Miles (RMs) 33.5 and 34.0 and is within the Wilbur Dam Reservation. Parcel 2 also includes three small islands located below Wilbur Dam. The terrain along the right-descending bank contains rock outcroppings with excellent forest habitat. The islands are mostly forested wetlands and are accessible only by boat. The rock outcroppings and forest on this parcel provide excellent wildlife habitat, as well as a buffer to Watauga River.

Private water use facilities will not be considered.

Recreation:

This parcel is primarily used for fishing. Additionally, TWRA recognizes Parcels 2, 3, 4, 5, and 6 as a State Wildlife Observation Area.

Sensitive Resources:

Field reviews and existing data do not indicate that sensitive resources are located within this parcel.

Transfers/License/Easement/Lease Agreements:

- The USFS has three permanent easements on the parcel for utilities crossing the western and southern sections of the parcel.

Prior Forecast: Reservoir Operations

Parcel 3 **1.1 Acres**
Common Name: **Marginal Strip Bluff (Fronting U.S. Forest Service [USFS] Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 34.0 – 34.5 Right*

General Description:

Parcel 3 consists of a marginal strip of TVA property that fronts lands owned and managed by the USFS for the protection of native vegetation and wildlife. The terrain of Parcel 3 consists of a steep rocky bluff. Hardwoods and pines of varying sizes from pole to saw-timber size dominate this narrow parcel.

Wilbur Cliffs, approximately 370 acres, is a series of forested and open cliffs that enclose the confluence of Wilbur and Watauga reservoirs. Although this ecologically significant site is primarily on Cherokee National Forest land, the site also includes Parcels 3, 4, 5, 6.

Private water use facilities will not be considered.

Recreation:

The back-lying USFS land fronted by this parcel makes up a portion of Big Laurel Branch Wilderness Area, which was designated by the U.S. Congress in 1986 and covers a total of 6,332 acres.

Sensitive Resources:

No sensitive resources surveys have been conducted on committed land. However, existing data do not indicate that sensitive resources are located within this parcel.

Transfers/License/Easement/Lease Agreements:

- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 4	1.7 Acres
Common Name:	Horseshoe Bend (Fronting USFS Property)
Allocation:	Zone 4 (Natural Resource Conservation)
Hydrologic Unit:	TN-06010103-080
County:	Carter, Tennessee
Stream:	Watauga River Mile 34.5 – 34.9 Right

General Description:

Parcel 4 consists of a marginal strip of TVA property that fronts lands owned and managed by the USFS for the protection of native vegetation and wildlife. The terrain of Parcel 4 changes from lowlands near the upstream portion of the parcel to a steep rocky bluff near the downstream portion of the parcel. Abundant wildlife and wetlands are located along the upper reaches of Parcel 4. The remaining portion of this narrow parcel is dominated with hardwoods and pines of varying sizes from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Recreation:

The back-lying USFS land fronted by this parcel makes up a portion of Big Laurel Branch Wilderness Area, which was designated by the U.S. Congress in 1986 and covers a total of 6,332 acres.

Sensitive Resources:

Field reviews and existing data do not indicate that sensitive resources are located within this parcel.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- The USFS has a permanent easement on the parcel for utilities crossing the southern section of the parcel.

Wilbur and Watauga Reservoirs Land Management Plan

- Inter-Mountain Telephone Company has a license for telephone lines that cross the southern section of the parcel.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 5 **0.8 Acre**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 34.9 – 35.3 Left*

General Description:

Parcel 5 consists of a marginal strip of TVA property that fronts lands owned by the USFS. The Watauga Dam Maintenance Base and Day Use Area are located across from Wilbur Dam Road on this parcel. The terrain of Parcel 5 consists of a steep rocky bluff. This narrow parcel is dominated with hardwoods and pines of varying sizes from pole to saw-timber size. This parcel was placed in Zone 4 to protect important wildlife habitat and shoreline vegetation. Forested shorelines are important to the ecology of the reservoir by providing food, cover, dispersal and travel corridors, and habitat for diverse populations of plants and animals. Trees and understory vegetation protect water quality by filtering nutrients, sediments, and other pollutants from runoff before they reach the reservoir. In addition, vegetation preserves shoreline beauty for reservoir users.

The Watauga River Regional Water Authority is a regional water utility that has proposed constructing a water intake structure on Wilbur Reservoir. The structure would include a pump building and associated water lines to be placed within the existing road rights-of-way to a treatment plant located on private property. The placement of utilities within this parcel would be consistent with the uses allowed for Zone 4.

Private water use facilities will not be considered.

Recreation:

Wilbur Reservoir itself is a 75-acre, TWRA-designated State Wildlife Observation Area. It provides habitat for numerous species of waterfowl and shorebirds.

Sensitive Resources:

No sensitive resources surveys have been conducted on committed land. However, existing data do not indicate that sensitive resources are located within this parcel.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- The USFS has a permanent easement to the USFS for utilities crossing the southern end of the parcel.

- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 6 **30.7 Acres**
Common Name: **Dam Reservation**
Allocation: **Zone 2 (Project Operations)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 33.8 – 34.8 Left*

General Description:

Parcel 6 is the Wilbur Dam Reservation. This parcel includes Wilbur Dam and Hydroelectric Power Plant, and associated access roads. Construction of Wilbur Dam began in 1909 and was completed in 1912. Two hydroelectric generating units were installed at Wilbur Dam when it was completed. A third generating unit was added in 1926, and TVA added a fourth when it acquired the dam in 1945. Wilbur Dam is 77 feet high, stretches 375 feet across the Watauga River, and has a generating capacity of 10,700 kilowatts of electricity. Wilbur Dam is eligible for listing in the National Register of Historic Places. Horseshoe School and its surrounding property are located within Parcel 6 and remain in ownership of a private party.

Private water use facilities will not be considered.

Recreation:

Parcel 6 is forested woodland with opportunities for recreation activities associated with dispersed recreation. Fishing is permitted, consistent with state regulations. Hunting is prohibited on dam reservation property. This parcel also has a TVA managed day use area that includes a picnic area and a canoe launch for tailwater access. Wilbur Reservoir itself is a 75-acre, TWRA-designated State Wildlife Observation Area, which provides habitat for numerous species of waterfowl and shorebirds.

Sensitive Resources:

Field reviews and existing data do not indicate that sensitive resources are located within this parcel.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on this parcel for utilities crossing at the northern and middle sections of the parcel.
- The Siam Utility District has a license for water utilities on this parcel that runs the entire length of the parcel.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: Reservoir Operations

4.2. Watauga Reservoir Parcel Descriptions

(See exhibit map)

Note: Parcel descriptions have the total acreage listed which lies above the 1,960.0-foot median shoreline contour for Watauga Reservoir. 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.

Parcel 1	508.7 Acres
Common Name:	Watauga Dam Reservation
Allocation:	Zone 2 (Project Operations)
Hydrologic Unit:	TN-06010103-080
County:	Carter, Tennessee
Stream:	<i>Watauga River Mile 34.9 – 38.4 Right and 35.3 – 37.4 Left</i>

General Description:

Watauga Reservoir holds the distinction of being the highest reservoir (more than 1,900 feet above sea level) in the Tennessee River system. The reservation contains several buildings associated with power production from Watauga Reservoir. Watauga Dam, the control building, the powerhouse, switchyard, and hydropower production maintenance building, as well as numerous power transmission lines, are located on this parcel. Watauga Dam is equipped with two power generators. Additional facilities located on the dam reservation are Watauga Dam Visitors Building, restrooms, and maintenance base facilities.

Wilbur Cliffs, approximately 370 acres, is a series of forested and open cliffs that enclose the confluence of Wilbur and Watauga reservoirs. Although this ecologically significant site is primarily on Cherokee National Forest land, the site also includes portions of Parcel 1.

Private water use facilities will not be considered.

Recreation:

Watauga Dam Reservation is forested woodland that provides several recreation facilities. A developed campground is located on the right bank of the Watauga River below Watauga Dam. Fishing and other activities associated with dispersed recreation are also available on this parcel and are considered appropriate uses on Zone 2 properties. Fishing is permitted, consistent with state regulations. Hunting is prohibited on the dam reservation, as is dispersed camping. This parcel also provides opportunities for picnicking, canoe access, hiking, and wildlife viewing. The Appalachian National Scenic Trail (AT) passes through this parcel and crosses the top of Watauga Dam. The AT, administered by the Appalachian Trail Conservancy, is a 2,175-mile public footpath extending from Maine to Georgia across Appalachian Mountain ridgelines. The AT crosses portions of Parcels 1 and 59.

Sensitive Resources:

Sensitive plant and terrestrial animal resources exist on the dam reservation. Marshy areas were noted between the dam and powerhouse. Forested habitat on the reservation is of high quality with mature trees noted throughout the property. Excellent and diverse wildlife habitat was noted throughout the parcel. The parcel has potential for Indiana bats.

Transfers/License/Easement/Lease Agreements:

- United Inter-Mountain Telephone Company has a license on this parcel for phone lines running on the western portion of the parcel.
- Siam Utility District has a water utility license on the northern tip of the western portion of the parcel.

Prior Forecast: Reservoir Operations

Parcel 2	5.8 Acres
Common Name:	Marginal Strip (Fronting USFS Property)
Allocation:	Zone 3 (Sensitive Resource Management)
Hydrologic Unit:	TN-06010103-080
County:	Carter, Tennessee
<i>Stream:</i>	<i>Watauga River Mile 37.6 – 38.0 Right and Island</i>

General Description:

Parcel 2 is located adjacent to the Watauga Dam Reservation and fronts land that has been transferred to the USFS for administration. This parcel also includes one island, which was part of the transfer, and three islands that were not transferred. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir, and the islands are beneficial to wildlife in the region.

Private water use facilities will not be considered.

Recreation:

These islands are only accessible by water and provide opportunities for hunting, fishing, and activities associated with dispersed recreation. Hunting and fishing are permitted, consistent with state regulations.

Sensitive Resources:

Sensitive plant resources and globally rare plant communities exist on this parcel.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 3 **2.3 Acres**
Common Name: **AT Marginal Strip**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter**
Stream: *Watauga River Mile 38.0 Right*

General Description:

Parcel 3 is a narrow strip of land that fronts USFS land and adjoins the waters of Watauga Reservoir. Hardwoods and pine dominate this parcel and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel was placed in Zone 3 to reflect the emphasis to protect and enhance sensitive resources.

Private water use facilities will not be considered.

Recreation:

The AT crosses this parcel and Watauga Dam Road and meanders to and across the top of Watauga Dam. Hunting and fishing (consistent with state regulations) and activities associated with dispersed recreation are also provided on this parcel. .

Sensitive Resources:

Sensitive plant resources and globally rare plant communities have been identified on this parcel.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 4 **31.52 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 38.1 – 41.0 Right and Island*

General Description:

Parcel 4 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. This parcel also includes three islands, which are only accessible by water.

Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir, and the islands are beneficial to wildlife and water quality in the region. This parcel was placed in Zone 3 to reflect the emphasis to protect and enhance sensitive resources.

Private water use facilities will not be considered.

Recreation:

Hunting and fishing (consistent with state regulations) and activities associated with dispersed recreation are also provided on this parcel.

Sensitive Resources:

Sensitive plant resources and globally rare plant communities have been identified on this parcel.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 5	14.1 Acres
Common Name:	Ham Smith Branch Marginal Strip
Allocation:	Zone 3 (Sensitive Resource Management)
Hydrologic Unit:	TN-06010103-080
County:	Carter, Tennessee
<i>Stream:</i>	<i>Watauga River Mile 39.8 – 41.1 Right</i>

General Description:

Parcel 5 is a narrow strip of land that fronts USFS land and adjoins the waters of Watauga Reservoir. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel was placed in Zone 3 to reflect the emphasis to protect and enhance sensitive resources.

Private water use facilities will not be considered.

Recreation:

Hunting and fishing (consistent with state regulations) and activities associated with dispersed recreation are also provided on this parcel.

Sensitive Resources:

Sensitive plant resources and globally rare plant communities have been identified on this parcel.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 6 **24.7 Acres**
Common Name: **USFS Marginal Strip**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 41.3 – 42.1 Right and Island*

General Description:

Parcel 6 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. This parcel also includes two islands, which are only accessible by water during summer pool elevation. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The two islands provide important wildlife habitat. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel was placed in Zone 3 to reflect the emphasis to protect and enhance sensitive resources.

Private water use facilities will not be considered.

Recreation:

Hunting and fishing (consistent with state regulations) and activities associated with dispersed recreation are also provided on this parcel.

Sensitive Resources:

Sensitive plant resources and globally rare plant communities have been identified on this parcel.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 7 **2.3 Acres**
Common Name: **Palmer Sampson Subdivision**
Allocation: **Zone 7 (Shoreline Access)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 42.1 Right*

General Description:

Parcel 7 consists of two areas of land that front residential development. Both areas have partial vegetation and are located in Palmer Sampson Subdivision. Because water use facilities were permitted prior to 1994, facilities are still allowed, using Shoreline Management Initiative (SMI) guidelines.

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.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 8	21.3 Acres
Common Name:	Point 8 Pines
Allocation:	Zone 4 (Natural Resource Conservation)
Hydrologic Unit:	TN-06010103-080
County:	Carter, Tennessee
Stream:	<i>Watauga River Mile 42.1 – 42.5 Right</i>

General Description:

Parcel 8 contains five areas. Two of these areas are islands and only accessible by water. The most western area is adjacent to Palmer Sampson Subdivision. The most northern portion is a small, forested area adjacent to Cove Ridge Marina. The last portion being the most eastern is a peninsula adjacent to Point 8 Pines. The northern third of this parcel is occupied by cove hardwood, primarily well-stocked, large saw-timber yellow poplar. Also present is a strip of yellow pines along the shoreline and scattered upland hardwood. The middle third is a pine-hardwood stand with saw-timber-sized upland hardwoods (black oak, white oak, yellow poplar, and hickory), white pine, and Virginia pine. Most of the southern third is reverted old fields, now occupied by Virginia pine and a small pitch pine plantation. The shoreline is steep and eroded. The islands are noteworthy of wildlife. This parcel was placed in Zone 4 to reflect natural resource management for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

The islands and Point 8 Pines provide opportunities for hunting, fishing, and activities associated with dispersed recreation. Hunting and fishing are permitted, 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.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: Reservoir Operations, Public Recreation

Parcel 9 **1.9 Acres**
Common Name: **Cove Ridge Marina**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 42.5 Right*

General Description:

Parcel 9 is a narrow strip that has a license agreement to manage the parcel in conjunction with the Cove Ridge Marina.

Private water use facilities will not be considered.

Recreation:

This parcel has been placed in Zone 6 to reflect its current use: developed recreation as associated with Cove Ridge Marina. This parcel, which is heavily forested, provides opportunities for activities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- Cove Ridge Marina has a commercial recreation license in place for this parcel.

Prior Forecast: No Forecast

Parcel 10 **0.2 Acre**
Common Name: **Red Hill Road Ramp**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 42.6 Right*

General Description:

Parcel 10 is the remnants of a county road.

Private water use facilities will not be considered.

Recreation:

The public uses the old, gravel county road as an informal launching ramp.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 11 **10.2 Acres**
Common Name: **Red Hill Road**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 42.6 Right*

General Description:

Parcel 11 is adequately stocked. Upland hardwood dominates this parcel with large saw-timber scarlet oak, white oak, and yellow poplar the most prevalent species. Scattered large saw-timber white pine is also present. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel was placed in Zone 4 to reflect management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

Existing data did not indicate any sensitive resources at this location.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: Public Recreation

Parcel 12 **0.9 Acre**
Common Name: **Cove Ridge Subdivision**
Allocation: **Zone 7 (Shoreline Access)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 42.0 Right*

General Description:

Parcel 12 is a narrow strip of land that fronts a portion of Cove Ridge Subdivision. Because water use facilities were permitted prior to 1994, facilities are still allowed, using SMI guidelines.

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.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 13 **33.4 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080; TN-06010103-030**
County: **Carter and Johnson, Tennessee**
Stream: *Watauga River Mile 42.0 – 44.5 Right*

General Description:

Parcel 13 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. This riparian strip is dominated by hardwoods and pine, which vary from pole to saw-timber size. These areas can be important riparian habitat for wetland mammals, wading birds, migrant waterfowl, and raptors, as well as nesting habitat for wood ducks and songbirds. Highway 67 crosses this parcel. This parcel was placed in Zone 4 to reflect management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 14 **0.1 Acre**
Common Name: **Highway 67 Bridge**
Allocation: **Zone 2 (Project Operations)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 42.8 Right*

General Description:

Parcel 14 consists of the northern abutment of the Butler Memorial Bridge and Highway 67. This vegetated strip provides an important buffer between the bridge and the waters of Watauga Reservoir.

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.

Transfers/License/Easement/Lease Agreements:

- TVA previously transferred the back-lying property to the USFS for administration.
- Mountain Electric Cooperative Utility has a permanent easement for utility lines crossing the southern end of this parcel.
- The State of Tennessee Highway Department has a permanent easement in the middle of this parcel for Highway 67 bridge.
- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 15 **2.8 Acres**
Common Name: **Butler Park/Bayview Campground**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-030**
County: **Johnson, Tennessee**
Stream: *Watauga River Mile 44.5 Right (Cobb Creek)*

General Description:

Parcel 15 consists of two areas of developed recreation, Butler Park and Bayview Campground.

Private water use facilities will not be considered.

Recreation:

The western portion consists of a public park including a pavilion, playground equipment, and a basketball court. The eastern portion fronts private land that has been developed as a campground and contains a public paved launching ramp and shoreline mooring. The mooring of the commercial slips for the campground is the only facility permitted.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- Bayview Campground has a recreation license fronting Watauga Reservoir on the eastern portion of the parcel for shoreline mooring and launching ramp.
- Johnson County has a recreation license on the western portion of the parcel for Butler Park.
- Mountain Electric Cooperative Utility has a permanent easement for utility lines crossing the southern end of this parcel.
- The State of Tennessee Highway Department has a permanent easement in the middle of this parcel for Highway 67.

Prior Forecast: Public Recreation

Parcel 16	8.1 Acres
Common Name:	Pappy's
Allocation:	Zone 4 (Natural Resource Conservation)
Hydrologic Unit:	TN-06010103-030
County:	Johnson, Tennessee
Stream:	<i>Watauga River Mile 44.5 Right (Cobb Creek)</i>

General Description:

Upland hardwoods and scattered white pine occupy this parcel. Saw-timber-sized yellow poplar, oaks, red maple, hickory, and white oak dominate the forest community. The northern area of this parcel is steep and forested. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. Sink Valley Road bisects the parcel. Parcel 16 was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

The southern portion is forested but suitable for passive and unconfined recreation opportunities, which are not associated with developed facilities. It also provides access for hunting, fishing, and activities associated with dispersed recreation.

Sensitive Resources:

Existing data did not indicate any sensitive resources at this location.

Transfers/License/Easement/Lease Agreements:

- The State of Tennessee Highway Department has a permanent easement in the middle of this parcel for the Highway 67 bridge.

Prior Forecast: Public Recreation

Parcel 17 **80.1 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080; TN-06010103-060**
County: **Johnson, Tennessee**
Stream: *Watauga River Mile 44.4 – 45.5 Right and Roan Creek Mile 0.0 – 5.2 Right*

General Description:

Parcel 17 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. This parcel also includes two islands, which are only accessible by water. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel was placed in Zone 4 to reflect management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

The USFS maintains a public ramp at Sink Valley. It provides hunting, fishing, and other opportunities associated with dispersed recreation. Hunting and fishing are permitted, consistent with state regulations.

Sensitive Resources:

Sensitive aquatic resources have been identified in the area; any future construction or ground disturbance will be subject to TVA's Heritage review process.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 17a **3.0 Acre**
Common Name: **Sink Mountain Ramp 1 (Fronting USFS Property)**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-030**
County: **Johnson, Tennessee**
Stream: *Watauga River Mile 44.4 Right and Roan Creek Mile 5.0 Right*

General Description:

Parcel 17a is a public boat launching area maintained by the USFS within Parcel 17.

Private water use facilities will not be considered.

Recreation:

This is a small parcel with developed recreation facilities and is suitable for activities associated with dispersed recreation. Hunting and fishing are permitted, 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.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 18	0.9 Acre
Common Name:	Sink Mountain Ramp 2 (Fronting USFS Property)
Allocation:	Zone 6 (Developed Recreation)
Hydrologic Unit:	TN-06010103-030
County:	Johnson, Tennessee
Stream:	<i>Roan Creek Mile 3.5 Right</i>

General Description:

Parcel 18 is a public boat launching area maintained by the USFS within Parcel 17.

Private water use facilities will not be considered.

Recreation:

This is a small parcel with developed recreation facilities and is suitable for activities associated with dispersed recreation. Hunting and fishing are permitted, 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.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 19 **6.1 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-030**
County: **Johnson, Tennessee**
Stream: *Roan Creek Mile 5.1 Left and Right Banks*

General Description:

Parcel 19 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. This parcel runs parallel with State Highway 167 and Roan Creek Road, on the north bank. On the south bank of Roan Creek, the parcel runs parallel with Lakeside Drive and R. D. Campbell Road. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel was placed in Zone 4 to reflect management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

Sensitive aquatic resources have been identified in the area. Any future construction or ground disturbance will be subject to TVA's Heritage review process.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.
- The City of Johnson City has a permanent easement in the middle of this parcel for the Highway 167 bridge.

Prior Forecast: No Forecast

Parcel 20 **1.8 Acres**
Common Name: **Roan Creek Road**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-030; TN-06010103-050**
County: **Johnson, Tennessee**
Stream: *Roan Creek Mile 5.6 – 6.2 Right*

General Description:

Parcel 20 is a strip of Reservoir Operations land located adjacent to and part of Roan Creek Road. This parcel is placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Wilbur and Watauga Reservoirs Land Management Plan

Private water use facilities will not be considered.

Recreation:

This parcel bisects private land and is unsuitable for dispersed recreation.

Sensitive Resources:

Existing data did not indicate any sensitive resources at this location.

Transfers/License/Easement/Lease Agreements:

- Johnson County has a permanent easement in the middle of this parcel for Highway 167.

Prior Forecast: No Forecast

Parcel 21	18.7 Acres
Common Name:	Williams Island
Allocation:	Zone 3 (Sensitive Resource Management)
Hydrologic Unit:	TN-06010103-030; TN-06010103-050
County:	Johnson, Tennessee
Stream:	<i>Roan Creek Mile 5.6 – 6.3 Left and Right Banks</i>

General Description:

Parcel 21 is an island situated along the creek bottom and is occupied by bottomland hardwoods. Saw-timber sycamore, green ash, and red maple are the dominate species, with willows occupying the wetter areas. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel contains 12.4 acres identified as being prime farmland.

Private water use facilities will not be considered.

Recreation:

The island is suitable for passive and unconfined recreation opportunities, which are not associated with developed facilities, such as bank fishing and primitive camping.

Sensitive Resources:

This parcel was placed in Zone 3 due to the high-quality wetlands, along with exceptional wildlife habitat and plant diversity over the entire parcel.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 22 **17.3 Acres**
Common Name: **Meal Camp Hollow Marginal Strip**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-030**
County: **Johnson, Tennessee**
Stream: *Watauga River Mile 46.7 – 48.5 Right*

General Description:

Parcel 22 has two areas of narrow strips of land that are fairly steep and forested. Only one area is considered uncommitted. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The southern section of the parcel contains marginal strip vegetation of moderate wildlife habitat quality. It has steep banks that are eroded in places. The larger portion of the parcel is remote and has a mature forest, which could provide suitable habitat for bald eagles. The northern segment of the parcel is steep with a rocky shoreline. Numerous snags were noted in the upland forest habitat. Despite the quality of the southern section, overall, Parcel 22 contains good wildlife habitat. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

Existing data did not indicate any sensitive resources at this location.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: Reservoir Operations, Public Recreation

Parcel 23 **118.3 Acres**
Common Name: **Pine Bottom**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-030**
County: **Johnson, Tennessee**
Stream: *Watauga River Mile 51.9 – 52.9 Right*

General Description:

Parcel 23 is located at the headwaters of the Watauga Reservoir and is primarily surrounded by USFS land. Parcel 24, a TVA transmission line, bisects this parcel. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

This parcel is riverine with a variety of forest conditions. The northern third is an older reverted field, which is now dominated by various-sized (pole and saw-timber) cove hardwood, primarily yellow

poplar, white pine, and eastern hemlock. Also present is a 35-year-old white pine plantation, which is now saw-timber size. A 39-acre upland hardwood stand with large saw-timber scarlet oak, black oak, white oak, and yellow poplar occupies the east-central area and southern end of the parcel. A 13-acre area south of the power line is a 35-year-old reverted field, which is now primarily yellow poplar and scattered white pine. Just south of the reverted field is a well-stocked, 6-acre stand of large saw-timber yellow poplar that is of excellent quality.

Private water use facilities will not be considered.

Recreation:

Parcel 23 receives a lot of recreation use. It provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

A beaver-impounded slough was noted on the parcel. The mixture of riparian zone, upland forest, stream corridor, beaver impoundment, and cobble-dominated shoreline provides diverse habitat for wildlife. The area ranks high for Indiana bats. Sensitive aquatic resources have been identified in the area; any future construction or ground disturbance will be subject to TVA's Heritage review process.

Transfers/License/Easement/Lease Agreements:

- A TVA transmission line crosses the middle of this parcel (Parcel 24)

Prior Forecast: Reservoir Operations

Parcel 24	9.1 Acres
Common Name:	Transmission Line
Allocation:	Zone 2 (Project Operations)
Hydrologic Unit:	TN-06010103-030
County:	Johnson, Tennessee
Stream:	Watauga River Mile 52.0 – 52.6 Left and Right Banks

General Description:

Parcel 24 is a transmission right-of-way that bisects Parcel 23. The western side is an extremely steep rocky bluff with the eastern side being riverine.

Private water use facilities will not be considered.

Transfers/License/Easement/Lease Agreements:

- TVA transmission line

Prior Forecast: No Forecast

Parcel 25 **3.3 Acres**
Common Name: **Pine Knob**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-030**
County: **Johnson, Tennessee**
Stream: *Watauga River Mile 52.5 – 53.0 Left*

General Description:

Parcel 25 consists of an extremely steep riparian strip and an adjacent island. The entire parcel is surrounded by USFS property. Cove and bottomland hardwoods, scattered white pine, and eastern hemlock occupy this narrow strip and island. Tree size varies from pole to large saw-timber size. The narrow strip is very steep and rocky. The shoreline vegetation provides riparian zone to the reservoir.

At Parcel 25, a segment of Watauga River from RM 52.6 at the upper portion of Watauga Reservoir to the North Carolina state line is listed on the Nationwide Rivers Inventory. The National Park Service (NPS) recognizes this segment of Watauga River for its outstanding scenic value. A portion of the Watauga River, including the portion within Watauga Reservoir, is also recognized by the NPS as a Potential National Natural Landmark. The National Natural Landmark (NNL) Program was established in the 1970s to identify nationally significant examples of ecologically pristine or near-pristine landscapes. This river, while meeting the criteria for listing, has not yet been registered as an NNL.

Private water use facilities will not be considered.

Sensitive Resources:

This parcel was placed in Zone 3, due to the sensitive resources identified on the parcel.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 26 **0.7 Acre**
Common Name: **Bunton**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-030**
County: **Johnson, Tennessee**
Stream: *Watauga River Mile 52.2 Left*

General Description:

Parcel 26 is a narrow strip of land located below the flowage easement. It is a wetland area on the riverine portion of Watauga River at the headwaters of Watauga Reservoir. This parcel is mainly open, but some areas are reverting to hardwood species. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

This parcel was placed in Zone 3 due to the high-quality wetlands, which are located at the riverine portion of the Watauga River at the headwaters of Watauga Reservoir.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 27	1.0 Acre
Common Name:	Marginal Strip (Fronting USFS Property)
Allocation:	Zone 4 (Natural Resource Conservation)
Hydrologic Unit:	TN-06010103-030
County:	Johnson, Tennessee
Stream:	<i>Watauga River Mile 52.0 Left</i>

General Description:

Parcel 27 is a narrow strip of land below land that was transferred to USFS. This is a large riverine and wetland area with flooded timber in the reservoir just off the shoreline. 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. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

Existing data did not indicate any sensitive resources at this location.

Transfers/License/Easement/Lease Agreements:

- Mountain Electric Cooperative Utility has a permanent easement for utility lines crossing the middle of this parcel.
- The City of Johnson City has a permanent easement in the middle of this parcel for Cowan Town Road.
- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.

- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 28 **3.4 Acres**
Common Name: **Pioneer Landing Camp/Marina (Fronting USFS Property)**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-030**
County: **Johnson, Tennessee**
Stream: *Watauga River Mile 50.5 Left*

General Description:

Parcel 28 is developed recreation fronting USFS land, which is bisected by Buntontown Road Bridge. Pioneer Landing Marina and Campground border this parcel on both sides.

Private water use facilities will not be considered.

Recreation:

Pioneer Landing Camp and Marina is located on this parcel and is managed by the USFS.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 29 **4.8 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-030**
County: **Johnson, Tennessee**
Stream: *Watauga River Mile 47.3 – 48.5 Left*

General Description:

Parcel 29 is a narrow strip of land below transferred land to USFS, consisting of three portions of very steep forested land and divided by private shoreline. This riparian strip is dominated by hardwoods and pine, which vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. Dayboard Marker 6 is located on the northernmost portion. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 30	13.0 Acres
Common Name:	Marginal Strip (Fronting USFS Property)
Allocation:	Zone 4 (Natural Resource Conservation)
Hydrologic Unit:	TN-06010103-070
County:	Carter, Tennessee
Stream:	Elk River Mile 3.5 – 4.5 Left and 3.6 – 5.1 Right

General Description:

Parcel 30 is a narrow strip of land below transferred land to USFS, encompassing the right and left bank of the Elk River. The right bank of the Elk River borders USFS land, and the left bank borders a small portion of USFS property and Elk River Estates. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 31 **0.2 Acre**
Common Name: **Row Branch**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-070**
County: **Carter, Tennessee**
Stream: *Elk River Mile 4.6 Left*

General Description:

Parcel 31 is a narrow strip of land below flowage easement along Row Branch, between Highway 321 and Watauga Reservoir. Hardwoods and pine dominate this riparian strip and vary from pole to saw-timber size, along with significant wetland communities. The shoreline vegetation provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Sensitive Resources:

This parcel was placed in Zone 3 due to high-quality wetlands, exceptional wildlife habitat, and plant diversity.

Transfers/License/Easement/Lease Agreements:

- Carter County has a permanent easement on the southern edge of this parcel for Highway 321.

Prior Forecast: No Forecast

Parcel 32 **0.5 Acre**
Common Name: **Highway 321**
Allocation: **Zone 3 (Sensitive Resource Management)**
Hydrologic Unit: **TN-06010103-070**
County: **Carter, Tennessee**
Stream: *Elk River Mile 2.3 Left*

General Description:

Parcel 32 is a narrow strip of land below transferred land to USFS. It is bordered on both sides by Parcel 33 and lies below Highway 321. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Sensitive Resources:

This parcel was placed in Zone 3 due to high-quality wetlands, exceptional wildlife habitat, and plant diversity.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 33 **12.4 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-070**
County: **Carter, Tennessee**
Stream: *Elk River Mile 1.3 – 2.3 Left*

General Description:

Parcel 33 is a narrow strip of land below transferred land to USFS and encompasses Parcel 32. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. No sensitive resources surveys have been conducted on committed land. The shoreline vegetation provides a riparian zone to the reservoir. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

Existing data did not indicate any sensitive resources at this location.

Transfers/License/Easement/Lease Agreements:

- Mountain Electric Cooperative Utility has a permanent easement for utility lines crossing the northern end of this parcel.
- Carter County has a permanent easement on the northern end of this parcel for Highway 321.
- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 34 **4.4 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-030**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 46.6 – 47.0 Left*

General Description:

Parcel 34 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 35 **0.5 Acre**
Common Name: **Campbell Hollow**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-030**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 46.6 Left*

General Description:

Parcel 35 is adjacent to Parcel 34 and contains lands above and below the maximum shoreline contour. This parcel is dominated by hardwoods and pine, which vary from pole to saw-timber size.

Most of the shoreline is severely eroded and provides little wildlife habitat. However, Kingfisher burrows were noted at this site. It was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

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.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 36 **6.8 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-030**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 44.8 – 45.3 Left*

General Description:

Parcel 36 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. It is adjacent to Watauga Lake Cabin Sites and is accessible by Moody Road. Hardwoods and pine dominate this narrow strip, which vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 37 **0.1 Acre**
Common Name: **Hank Johnson Subdivision**
Allocation: **Zone 7 (Shoreline Access)**
Hydrologic Unit: **TN-06010103-030**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 44.6 Left*

General Description:

Parcel 37 is a narrow strip of land bordered on both sides by USFS and fronts one private lot and one of two community access areas of Hank Johnson Subdivision. Because water use facilities were permitted prior to 1994, facilities are still allowed, using SMI guidelines.

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.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 38 **2.1 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Management)**
Hydrologic Unit: **TN-06010103-030**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 44.3 – 44.6 Left*

General Description:

Parcel 38 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. Hardwoods and pine, varying from pole to saw-timber size, dominate this parcel, which was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 39 **0.1 Acre**
Common Name: **Hank Johnson Cabin Sites**
Allocation: **Zone 7 (Shoreline Access)**
Hydrologic Unit: **TN-06010103-030**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 44.3 Left*

General Description:

Parcel 39 is a narrow strip of land below the maximum shoreline contour, bordered on both sides by USFS and fronting one of the two community access areas of Hank Johnson Subdivision. Because water use facilities were permitted prior to 1994, facilities are still allowed, using SMI guidelines.

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.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 40 **0.7 Acre**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-030**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 44.3 Left*

General Description:

Parcel 40 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 41	3.5 Acres
Common Name:	Dr. Cole
Allocation:	Zone 4 (Natural Resource Conservation)
Hydrologic Unit:	TN-06010103-030
County:	Carter, Tennessee
Stream:	<i>Watauga River Mile 44.0 Left (Milligan Branch)</i>

General Description:

Parcel 41 is a steeply wooded and severely eroded area adjacent to Mallard Cove Marina and is surrounded by private property. Saw-timber-sized upland hardwoods with scattered white pine and eastern hemlock occupy this parcel. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

Existing data did not indicate any sensitive resources at this location.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: Public Recreation

Parcel 42 **4.6 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-030**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 43.9 – 44.2 Left*

General Description:

Parcel 42 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. Dayboard Marker 4 is located on the easternmost portion of this parcel at the mouth of Milligan Branch. The western portion is bordered by Hidden Valley Retreat. 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. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 43 **3.5 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 42.8 – 43.4 Left*

General Description:

Parcel 43 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. It is separated by Parcel 44. This parcel is on the upstream side of Butler Memorial Bridge. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 44	0.2 Acre
Common Name:	Butler Bridge Marginal
Allocation:	Zone 4 (Natural Resource Conservation)
Hydrologic Unit:	TN-06010103-080
County:	Carter
<i>Stream:</i>	<i>Watauga River Mile 42.8 Left</i>

General Description:

Parcel 44 is a narrow strip of land fronting private property. It is bordered on both sides by Parcel 43. The shoreline vegetation provides a riparian zone to the reservoir. This small parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

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.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 45 **0.1 Acre**
Common Name: **Highway 67 Bridge**
Allocation: **Zone 2 (Project Operations)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 42.7 Left*

General Description:

Parcel 45 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. Highway 67 crosses this parcel.

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.

Transfers/License/Easement/Lease Agreements:

- Mountain Electric Cooperative Utility has a permanent easement for utility lines crossing the southern end of this parcel.
- The State of Tennessee Highway Department has a permanent easement in the middle of this parcel for the Highway 67 bridge.
- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 46 **26.2 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 41.3 – 42.7 Left*

General Description:

Parcel 46 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. It is separated by Parcel 47. This parcel includes an island adjacent to Fish Springs Marina. This riparian strip is dominated by hardwoods and pine, which vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 47	0.6 Acre
Common Name:	Fish Springs Marginal
Allocation:	Zone 4 (Natural Resource Conservation)
Hydrologic Unit:	TN-06010103-080
County:	Carter, Tennessee
Stream:	<i>Watauga River Mile 42.3 Left</i>

General Description:

Parcel 47 is a narrow strip of land that is bordered on both sides by USFS property. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. It was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

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.

Transfers/License/Easement/Lease Agreements:

- None

Prior Forecast: No Forecast

Parcel 48 **2.1 Acres**
Common Name: **Fish Springs Marina**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 41.0 Left*

General Description:

Parcel 48 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir.

Private water use facilities will not be considered.

Recreation:

Fish Springs Marina adjoins this parcel and has a license for commercial mooring. Fish Springs Marina is the first TVA-certified Clean Marina on Watauga.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- Fish Springs Marina holds a recreation license on the entire parcel.
- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 49 **18.7 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 40.0 – 40.9 Left*

General Description:

Parcel 49 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. It is separated by Parcel 50. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- Mountain Electric Cooperative Utility has a permanent easement for utility lines crossing the northern end of this parcel.
- Carter County has a permanent easement on the northern end of this parcel for Highway 321.
- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 50	9.1 Acres
Common Name:	Little Stoney Creek
Allocation:	Zone 6 (Developed Recreation)
Hydrologic Unit:	TN-06010103-080
County:	Carter, Tennessee
<i>Stream:</i>	<i>Watauga River Mile 40.5 Left</i>

General Description:

Parcel 50 is a narrow strip of land bordered on both sides by USFS and lies below Highway 67. Various-sized eastern hemlock, white oak, red maple, yellow poplar, and beech dominate this heavily used area. Willows are present along the shoreline. A dense understory of rhododendron is present on much of the area and buffalo nut is common. The shoreline vegetation provides a riparian zone to the reservoir, which is beneficial to wildlife and water quality in the region.

Private water use facilities will not be considered.

Recreation:

Although forested, this parcel has become highly degraded, due to swimming and camping uses.

This parcel has been placed in Zone 6 to reflect the current management and use of this area. The USFS has a permanent easement over the area, and it is managed as a primitive camping area. It is posted that motorized vehicles and alcohol are prohibited.

Sensitive Resources:

Sensitive plant resources have been identified in the area. Any future construction or ground disturbance will be subject to TVA's Heritage review process.

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 51 **10.7 Acres**
Common Name: **Watauga Point Recreation Area (USFS Property)**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 39.7 Left*

General Description:

Parcel 51 is managed as part of a USFS-developed recreation area, Watauga Point Recreation Area.

Private water use facilities will not be considered.

Recreation:

Watauga Point Recreation Area is developed with swimming areas, restrooms, a day use area, and a paved launching ramp.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 52 **7.7 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 38.9 – 39.5 Left*

General Description:

Parcel 52 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. This parcel runs parallel with Highway 321 and between Watauga Lakeshore Resort and Marina and Watauga Point Recreation Area. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. 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. This parcel was placed in Zone 4 to reflect its management to enhance natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides hunting and fishing (consistent with state regulations) and other opportunities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 53	11.9 Acres
Common Name:	Watauga Lakeshore Resort and Marina
Allocation:	Zone 6 (Developed Recreation)
Hydrologic Unit:	TN-06010103-080
County:	Carter, Tennessee
<i>Stream:</i>	<i>Watauga River Mile 38.5 – 39.0 Left</i>

General Description:

Parcel 53 is a narrow strip of land fronting private property, developed for commercial recreation by Watauga Lakeshore Resort and Marina.

Private water use facilities will not be considered.

Recreation:

This parcel includes a restaurant, cabins, marina, boat rentals, dock store, and boat storage and repair associated with Watauga Lakeshore Resort and Marina. The resort and marina also has a license for shoreline mooring.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- Watauga Lakeshore Resort and Marina holds a recreation license on this entire parcel.

Wilbur and Watauga Reservoirs Land Management Plan

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 54 **14.6 Acres**
Common Name: **Y's Men**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 37.5 – 38.5 Left*

General Description:

Parcel 54 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir. Saw-timber yellow poplar, red maple, oaks, hickories, and basswood occupy the shoreline strip portion of the parcel. The segment south of the highway is primarily sycamore, yellow poplar, and red maple of various sizes. The shoreline vegetation provides a riparian zone to the reservoir.

Private water use facilities will not be considered.

Recreation:

This parcel provides opportunities for hunting and fishing (consistent with state regulations) and other activities associated with dispersed recreation. This parcel was formerly the Y's Men's Picnic Area; however, due to illegal activities, it has been closed. Watauga Lakeshore Resort and Marina has inquired about licensing this area for additional commercial recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 55 **8.2 Acres**
Common Name: **Carden Bluff Campground (Fronting USFS Property)**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 37.0 – 37.3 Left*

General Description:

Parcel 55 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir.

Private water use facilities will not be considered.

Recreation:

The transfer is a developed campground, Carden Bluff. The campground is developed with primitive campsites, a bathhouse, and lakeside areas for bank fishing and swimming.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 56 **5.6 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 4 (Natural Resource Conservation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 36.9 – 37.1 Left*

General Description:

Parcel 56 is a narrow strip of land that fronts land transferred to the USFS and an island only accessible by water. Hardwoods and pine, which vary from pole to saw-timber size, dominate the marginal strip and island. 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.

This area was placed in Zone 4 to reflect its management for enhancement of natural resources for human use and appreciation.

Private water use facilities will not be considered.

Recreation:

This parcel provides access for hunting and fishing (consistent with state regulations) and other activities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 57	6.5 Acres
Common Name:	Rat Branch Ramp (Fronting USFS Property)
Allocation:	Zone 6 (Developed Recreation)
Hydrologic Unit:	TN-06010103-080
County:	Carter, Tennessee
Stream:	<i>Watauga River Mile 37.1 Left</i>

General Description:

Parcel 57 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir.

Private water use facilities will not be considered.

Recreation:

This parcel has been developed by the USFS as a fishing pier and paved launching ramp.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 58 **4.8 Acres**
Common Name: **Shook Branch Day Use Area (Fronting USFS Property)**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 37.1 Left*

General Description:

Parcel 58 is a narrow strip of land that fronts land transferred to the USFS and adjoins the waters of Watauga Reservoir.

Private water use facilities will not be considered.

Recreation:

This parcel is managed as part of the Shook Branch Recreation Area and has been developed for recreation containing a swimming area, picnic area, fishing pier, and launching ramp.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

Parcel 59 **20.1 Acres**
Common Name: **Marginal Strip (Fronting USFS Property)**
Allocation: **Zone 6 (Developed Recreation)**
Hydrologic Unit: **TN-06010103-080**
County: **Carter, Tennessee**
Stream: *Watauga River Mile 36.9 Left and Island*

General Description:

Parcel 59 is a narrow strip of land that fronts land transferred to the USFS and an island that is only accessible by water. Hardwoods and pine dominate this narrow strip and vary from pole to saw-timber size. It was placed in Zone 6 to reflect current management by the USFS and use of the parcel for dispersed recreation. 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.

The AT, administered by the Appalachian Trail Conservancy, is a 2,175-mile public footpath extending from Maine to Georgia across Appalachian Mountain ridgelines. The AT crosses portions of Parcels 1 and 59.

Wilbur and Watauga Reservoirs Land Management Plan

Private water use facilities will not be considered.

Recreation:

This parcel provides access for hunting and fishing (consistent with state regulations) and other activities associated with dispersed recreation.

Sensitive Resources:

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

Transfers/License/Easement/Lease Agreements:

- Carter County has a permanent easement on the southern edge of this parcel for Highway 321.
- The USFS has a permanent easement on the entire parcel for the use and benefit of the USFS.
- TVA previously transferred the back-lying property to the USFS for administration.

Prior Forecast: No Forecast

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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.
benthos	Organisms that live on the bottom of a stream, river, or reservoir.
chlordane	A pesticide previously used to control termites and crop pests until banned by EPA in 1983.
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.
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 <i>TVA Act</i> .
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 owned by private or other public entities.
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	The communities of plants and animals which occur within the influence of a stream, river, or body of water.

riparian zone	An area of land that has vegetation or physical characteristics reflective of permanent water influence. Typically a streamside zone or shoreline edge.
riprap	Stones placed along the shoreline for bank stabilization and other purposes.
riverine	Having characteristics similar to a river.
Section 26a review process	Section 26a of the <i>TVA Act</i> 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.

<p>wetlands</p>	<p>As defined in <i>TVA Environmental Review Procedures</i>, “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.</p>
<p>wildlife management area</p>	<p>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.</p>
<p>woodland</p>	<p>Open stands of trees with crowns not usually touching, generally forming 25-60 percent cover (Grossman et al. 1998).</p>