

**Yadkin-Pee Dee River Hydroelectric Project**  
**FERC No. 2206**

**Progress Energy**

**APPLICATION FOR LICENSE**

**Exhibit E8**  
**Land Management and Aesthetics**

# TABLE OF CONTENTS

<b>Section</b>	<b>Title</b>	<b>Page No.</b>
<b>EXHIBIT E8 - LAND MANAGEMENT AND AESTHETICS .....1</b>		
8.0	Regulations Defining the Content of Exhibit E8.....	1
8.1	Introduction.....	2
8.2	Existing Land Use and Aesthetic Resources.....	5
8.2.1	Land Use and Ownership in the Project Area .....	7
8.2.2	Shoreline Land Use.....	13
8.2.3	Description of Wetlands and Floodplains .....	15
8.2.4	Aesthetic / Visual Resource Character .....	22
8.3	Project Effects on Land and Aesthetic Resources .....	29
8.4	Measures to Address Land Management and Aesthetic Resources.....	32
8.5	Comprehensive Plans .....	33
8.6	Consultation Regarding Land Management and Aesthetics .....	34
8.6.1	Summary of Land Management and Aesthetic PM&E Measures Proposed by Resource Agencies and Other Parties .....	34
8.7	Summary of Protection, Mitigation, and Enhancement Measures.....	35
8.8	References .....	37

## LIST OF FIGURES

<b>Figure</b>	<b>Title</b>	<b>Page No.</b>
Figure E8-1	Project location map. ....	3
Figure E8-2	Yadkin-Pee Dee River Project land use maps (Sheet 1 of 5). ....	8
Figure E8-2	Yadkin-Pee Dee River Project land use maps (Sheet 2 of 5). ....	9
Figure E8-2	Yadkin-Pee Dee River Project land use maps (Sheet 3 of 5). ....	10
Figure E8-2	Yadkin-Pee Dee River Project land use maps (Sheet 4 of 5). ....	11
Figure E8-2	Yadkin-Pee Dee River Project land use maps (Sheet 5 of 5). ....	12
Figure E8-3	Blewett Falls Lake shoreline aquatic habitat map. ....	16
Figure E8-4	Yadkin-Pee Dee River Project inundation maps (Sheet 1 of 3). ....	19
Figure E8-4	Yadkin-Pee Dee River Project inundation maps (Sheet 2 of 3). ....	20
Figure E8-4	Yadkin-Pee Dee River Project inundation maps (Sheet 3 of 3). ....	21
Figure E8-5	View south to Lake Tillery from Morrow Mountain. ....	23
Figure E8-6	View of upper reaches of Lake Tillery from Morrow Mountain State Park. ....	23
Figure E8-7	View of Morrow Mountain and smaller mountains from Holiday Shores access. ....	25
Figure E8-8	View looking upstream towards Tillery Hydroelectric Plant from the N.C. Highway 731 Bridge. ....	25
Figure E8-9	Typical view of vegetated shoreline at Blewett Falls Lake. ....	26
Figure E8-10	View looking south toward Blewett Falls Dam from the Pee Dee public access. ....	26
Figure E8-11	View looking north or upstream at Blewett Falls Dam. ....	27
Figure E8-12	View looking west across to Blewett Falls' powerhouse from the canoe portage. ....	27
Figure E8-13	View of Lake Tillery from Stony Mountain access. ....	28
Figure E8-14	View of Blewett Falls Lake looking north from Canoe Portage. ....	28
Figure E8-15	View looking south toward Blewett Falls Dam from Pee Dee public access with water surface approximately 2 ft below normal maximum elevation at Blewett Falls Dam. ....	31
Figure E8-16	View looking upstream or northeast on Blewett Falls Lake from Pee Dee public access with water surface approximately 2 ft below normal maximum elevation at Blewett Falls Dam. ....	31

## LIST OF TABLES

<b>Table</b>	<b>Title</b>	<b>Page No.</b>
Table E8-1	Population by county 1990-2000.....	5
Table E8-2	Percent of county land cover. ....	6
Table E8-3	Land use within the Project Boundary.....	7
Table E8-4	Current Lake Tillery shoreline land use classification. ....	14

## Exhibit E8 - Land Management and Aesthetics

### 8.0 Regulations Defining the Content of Exhibit E8

The following excerpt from the Code of Federal Regulations at 18 CFR § 4.51(f)(5) describes the required content of this exhibit.

- (6) *The report must discuss the management of land within the proposed project boundary, including wetlands and floodplains, and the protection of the recreational and scenic values of the project. The report must be prepared following consultation with local and state zoning and land management authorities and any Federal or state agency with managerial authority over any part of the project lands. Consultation must be documented by appending to the report a letter from each agency consulted indicating the nature, extent, and results of the consultation. The report must contain:*
- (i) *A description of existing development and use of project lands and all other land abutting the project impoundment.*
  - (ii) *A description of the measures proposed by the applicant to ensure that any proposed project works, rights-of-way, access roads, and other topographic alterations blend, to the extent possible, with the surrounding environment.*
  - (iii) *A description of wetlands or floodplains within, or adjacent to, the project boundary, any short-term or long-term impacts of the project on those wetlands or floodplains, and any mitigative measures in the construction or operation of the project that minimize any adverse impacts on the wetlands or floodplains.*
  - (iv) *A statement, including an analysis of costs and other constraints, of the applicant's ability to provide a buffer zone around all or any part of the impoundment, for the purpose of ensuring public access to project lands and waters and protecting the recreational and aesthetic values of the impoundment and its shoreline.*
  - (v) *A description of the applicant's policy, if any, with regard to permitting development of piers, docks, boat landings, bulkheads, and other shoreline facilities on project lands and waters.*
  - (vi) *Maps or drawings that conform to the size, scale and legibility requirements of §4.39, or photographs, sufficient to show the location and nature of the measures proposed under paragraph (f)(6)(ii) of this section (maps or drawings in this exhibit may be consolidated).*

## 8.1 Introduction

This Exhibit provides detailed information describing the land use within and adjacent to the Project. This information was primarily based on existing information or information collected in accordance with study plans developed within the Recreation and Land Use Resource Working Group (RWG) during relicensing consultation meetings held by Progress Energy in 2003 (Progress Energy 2003, 2004). Studies were conducted in 2004.

Progress Energy manages the shorelines of Lake Tillery and Blewett Falls Lake to balance the needs of user groups and natural resource protection within the Project Boundary of the two developments. Progress Energy has recently prepared in consultation with federal, state, and local agencies a Shoreline Management Plan (SMP) for Lake Tillery. This SMP was approved by FERC in November 2004. The SMP provides for the protection and enhancement of the environmental, scenic, and recreational values provided by the lake and Project lands while ensuring the continued reliable production of hydroelectric power (CP&L 2001). The SMP also provides guidelines for the use of leased properties and outlines procedures for permitting activities along the shoreline within the Project Boundary.

Two studies agreed upon within the Recreation and Land Use RWG were conducted by Progress Energy during 2004 (Progress Energy 2004). These studies were: (1) a scenic vista survey; and (2) a shoreline management plan for the Blewett Falls Development. Methods pertaining to each study are described in each study plan located in Appendix A of this License Application.

The Yadkin-Pee Dee River Project is located on the Yadkin and Pee Dee rivers in the State of North Carolina and consists of the 84 megawatt (MW) Tillery Development and the 24.6 MW Blewett Falls Development. Each development consists of a dam, powerhouse, impoundment reservoir, primary transmission lines, structures used in connection with the Project, water rights, rights-of-way (ROW), lands, and interest in lands necessary for the operation and maintenance of the Project.

The Project is located on the Yadkin and Pee Dee rivers in south central North Carolina (see Figure E8-1). The Yadkin-Pee Dee River basin is the second largest in North Carolina covering 7,186 square miles as measured at the North Carolina-South Carolina state line (North Carolina Division of Water Quality [NCDWQ] 2002). The Yadkin-Pee Dee River originates near the town of Blowing Rock and flows northeasterly for approximately 100 miles from the Blue Ridge Mountains into the Piedmont physiogeographic region. As the river turns southeast, it enters an area in central North Carolina that has experienced considerable urban growth. This growing urban area that extends from Charlotte to Raleigh/Durham is known as the "Piedmont Crescent" (Appalachian State University [ASU] 1999). Just to the south of the Piedmont Crescent, the river enters an area known

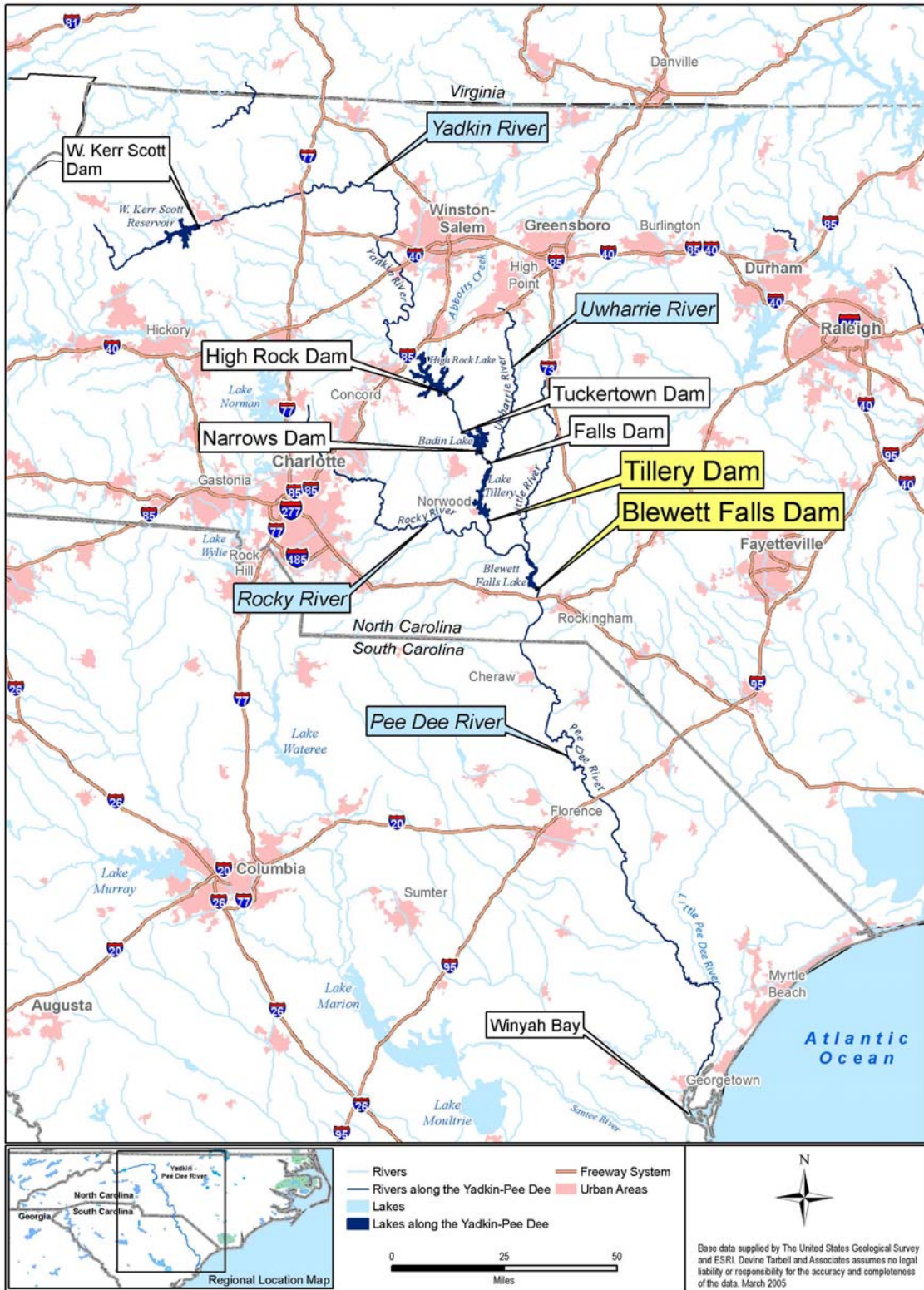


Figure E8-1 Project location map.

as the Uwharrie Lakes Region. This region is named for the chain of six reservoirs located along this reach of the Yadkin-Pee Dee River, two of which are Lake Tillery and Blewett Falls Lake. It is in this region that the Uwharrie River joins the Yadkin River at the upper end of Lake Tillery to form the Pee Dee River.

The flow of the Yadkin-Pee Dee River is regulated by a federal flood control development and six hydroelectric developments on the main stem of the river (Figure E8-1). The first development (traveling downstream from the headwaters) is W. Scott Kerr Dam, a federal flood control project operated by the U.S. Army Corps of Engineers (ACOE). The next four developments make up the Yadkin Project (FERC No. 2297). These four hydroelectric developments—High Rock, Tuckertown, Narrows, and Falls—are owned and operated by Alcoa Power Generating, Inc. (APGI) and are located along a 38-mile stretch of the river (river miles [RM] 272 to 234). High Rock Reservoir is operated as a storage reservoir and serves as the principal storage and water regulation facility for the lower Yadkin-Pee Dee River (APGI 2002).

The next two hydroelectric developments on the river, located approximately at RM 218 and 188 are the Tillery and Blewett Falls developments, which constitute Progress Energy's Yadkin-Pee Dee River Project (FERC No. 2296). The primary purpose of the Project is to provide peaking and load-following generation. Its ability to provide such benefits and meet other flow-related needs is largely dependent on the schedule of flows being released from upstream reservoirs. Currently, an agreement between APGI and Progress Energy governs the release of waters from the APGI developments to the Progress Energy developments.

Exhibit E8 of the license application presents an overview of land management within the Project Boundary in conjunction with aesthetics and recreational opportunities afforded by the Project and available in the Project area.



## 8.2 Existing Land Use and Aesthetic Resources

The creation of the six man-made Uwharrie Lakes chain of impoundments has caused over time an evolution in land use and development in proximity to the lakes, changing from primarily agricultural and natural-resource-based activities to a residential and recreation-based economy. The growing population along U.S. Interstate 85 and U.S. Interstate 40 from Charlotte to Raleigh-Durham, an area known as the Piedmont Crescent, has had an effect on land use in the area. There has been an increase in population of approximately 10 percent in the surrounding four counties surrounding the Project since 1990. Table E8-1 provides the population for the four counties surrounding the Project.

**Table E8-1 Population by county 1990-2000.**

	<b>1990</b>	<b>2000</b>	<b>Percent Change</b>
Anson	23,474	25,275	7.7
Montgomery	23,346	26,822	14.9
Richmond	44,518	46,564	4.6
Stanly	51,765	58,100	12.2
<b>Total</b>	<b>143,103</b>	<b>156,761</b>	<b>9.5</b>

Source: U.S. Census 2002b.

Although the region has rich agricultural traditions, farming continues to decline as an occupation. The trend is that more residents are commuting out of their communities to work. The pressure of urban development nearby is leading to the conversion of large tracts of land to residential use and loss of forested lands. Subdividing these large tracts of land for individual and community residential development is increasing in the Piedmont region. Statistics provided by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) indicate that during the 10-year period from 1982 to 1992, there was a 46 percent decrease in cultivated and uncultivated croplands. It is likely that some of this cropland was converted to pastureland and to urban and built-up areas (NCDENR 2002).

Today, less than 20 percent of the North Carolina Piedmont is in row crops such as corn, tobacco and soybeans. In the mid-1930s, by comparison, nearly 50 percent of the Piedmont was rowcropped. There have been some small increases in pastureland and forestland over the same period. The past 60 years has, however, seen a rapid increase in the amount of land used for urban and residential development, with almost 20 percent of the Piedmont now being used for these purposes. Cropland has been almost entirely replaced by urban and suburban development in some parts of the Yadkin River basin (Duke University 1997).

The citizens of the seven counties in the Uwharrie Lakes region, which include Anson, Richmond, Stanly, Montgomery, Rowan, Davidson, and Randolph counties, have taken a proactive approach to the future development of their region. A non-profit organization called the Yadkin-Pee Dee Lakes Project was established in 1994. The Yadkin-Pee Dee Lakes Project commissioned ASU and the University of North Carolina - Charlotte (UNCC) to study the region's potential for developing a healthy economy based on sustainable tourism using the region's natural and cultural assets such as eco-tourism, agri-tourism, and heritage tourism (ASU 1999, UNCC 1999). The study was commissioned with the idea that the region could become North Carolina's "Central Park" serving as a rural hub for outdoor recreation and tourism for local residents and the growing urban population of the Crescent Metro areas surrounding the region (ASU 1999).

After considering various alternatives, it was decided that the “Central Park” plan would combine local initiatives and low-impact development supplemented by festivals and special events as the goal to assist in future development of the area (ASU 1999). The plan will promote sustainable tourism so that the area may benefit from the added economic growth but retain the rural, natural, cultural and historic assets that will draw tourists to the “Central Park” area (Yadkin-Pee Dee Lakes Project 2002).

Forest lands (both private and federal forests) cover approximately 51 percent of the Yadkin-Pee Dee River basin. Federal lands near the Project are located within the Pee Dee Wildlife Refuge, the Uwharrie National Forest, and the Blue Ridge Parkway. Agriculture (including cultivated and uncultivated cropland and pastureland) covers approximately 30 percent of the land area (NCDENR 2002). Table E8-2 presents a summary of the general cover types within the four counties of the Project area.

**Table E8-2 Percent of county land cover.**

Land Cover	Anson	Montgomery	Richmond	Stanly
Developed	0.5	0.5	1.0	1.4
Cultivated	11.4	4.0	10.8	14.0
Grasslands/Pasture	9.9	8.9	4.6	32.8
Shrubland	3.2	3.0	3.9	0.8
Deciduous Forests	23.6	44.3	23.2	37.0
Evergreen Forests	36.3	27.6	48.7	6.9
Mixed Forests	13.8	9.2	6.2	4.5
Water	1.1	2.3	1.3	2.6
Sand/Gravel	0.3	0.2	0.3	0.1

Source: (ASU 1999).

There are several federal- and state-managed public lands in proximity and adjacent to the Project which has been previously discussed in this document. These include the Uwharrie National Forest, Morrow Mountain State Park, and the Pee Dee National Wildlife Refuge (Pee Dee NWR).

- **Uwharrie National Forest** - The Uwharrie National Forest, comprised on 49,857 acres, is within the Yadkin-Pee Dee River basin. The forest is a prime recreation area for hiking, camping, mountain biking, and off-road vehicles. Commercial timber activities also occur within the forest. Timber harvesting activities within the forest typically require leaving vegetated riparian corridors of 100 to 400 ft along perennial streams (NCDENR 2002a).
- **Morrow Mountain State Park** - Morrow Mountain State Park is located in Stanly County. The North Carolina Division of Parks is responsible for managing the park. The park boundary encompasses approximately 4,742 acres. Recreational opportunities at the park include boating, camping, swimming, hiking and equestrian trails, and picnicking.
- **Pee Dee National Wildlife Refuge** - Situated on the banks of the Pee Dee River in Anson and Richmond counties, the Pee Dee NWR contains 8,443 acres of bottomland hardwood forest and upland pine. The Pee Dee NWR contains several ponds and many creeks flow through the refuge lands. The primary refuge objective is to provide wintering habitat for Canada geese and ducks, and provide nesting sanctuary for wood ducks. The refuge provides habitat for migrating waterfowl, Neotropical birds, amphibians, and mammals. The refuge also serves as a demonstration area for management and restoration of private lands, as well as a model for sound land stewardship. (USFWS 2005)
- **Pee Dee River Game Lands** - The Game Lands consist of property owned by Progress Energy and leased to the North Carolina Wildlife Resources Commission (NCWRC) around

Blewett Falls Lake, a land tract just downstream of the Tillery Development and a tract of land on the east side of the Pee Dee River in Richmond County, approximately 11 to 12 miles downstream of the Blewett Falls Development (NCWRC 2005). These game lands are open to hunting for all game species six days per week. Primary game and fish species include deer, turkey, fox, raccoon, squirrel, waterfowl, and warm water fishes. Primitive campsites exist within the Game Land boundaries. The NCWRC also maintains three areas for public access to the lake on Blewett Falls Lake within the Game Lands.

### 8.2.1 Land Use and Ownership in the Project Area

Land use data for the Project region was obtained from USGS GIS data sources. Two areas of land were mapped: land within the Project Boundary and land within 2,000 ft of the FERC Project Boundary. The land area within the Project Boundary encompasses 1,307 acres at Lake Tillery and 2,431 acres at Blewett Falls. Figure E8-2 shows land use in the Project area, and Table E8-3 presents a summary of this data.

No land within the Project Boundary is either owned or leased by the federal government.

**Table E8-3 Land use within the Project Boundary.**

Land Use	Acreages			Percentages		
	Blewett	Tillery	Total	Blewett	Tillery	Total
Forest Land	2,163.9	799.7	2,963.6	89.0	61.2	79.3
Range Land	223.1	38.3	261.4	9.2	2.9	7.0
Agricultural Land	0.3	22.9	23.2	0.0	1.7	0.6
Residential / Scattered Homes		426.5	426.5	0.0	32.6	11.4
Urban / Built-Up		6.2	6.2	0.0	0.5	0.2
Project Works	36.2	6.3	42.4	1.5	0.5	1.1
Barren	7.9	7.1	15.0	0.3	0.5	0.4
<b>Total</b>	<b>2,431.4</b>	<b>1,307.0</b>	<b>3,738.4</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

The landscape around Lake Tillery is rolling hills, forestland, and farmland. Pine and hardwood species are mixed within a secondary forest growth along the shorelines. On Lake Tillery, there are both year-round and seasonal homes and cottages. The Project area is accessible via a network of state roads. Development and maintenance of lands surrounding Lake Tillery within the Project Boundary is managed by Progress Energy under the FERC-approved Shoreline Management Plan (SMP). Outside of the Project Boundary, federal and state authorities as well as local counties regulate land use and development.

On Blewett Falls Lake, there are only a few homes and seasonal cottages. Similar to Lake Tillery, the Project area is accessible via a network of state roads. Blewett Falls Lake is much less developed than Lake Tillery and does not have any urban development within or near the Project Boundary.

Deciduous and evergreen forestlands make up the largest percentage of land cover for all four counties. Developed lands make up less than 1.5 percent of land use in the counties adjacent to the Project (0.5 to 1.4 percent).

Land use categories shown in Figure E8-2 and in Table E8-3 are defined below (refer to the cover-type maps in Figure E5-1, Exhibit E5 for additional information):

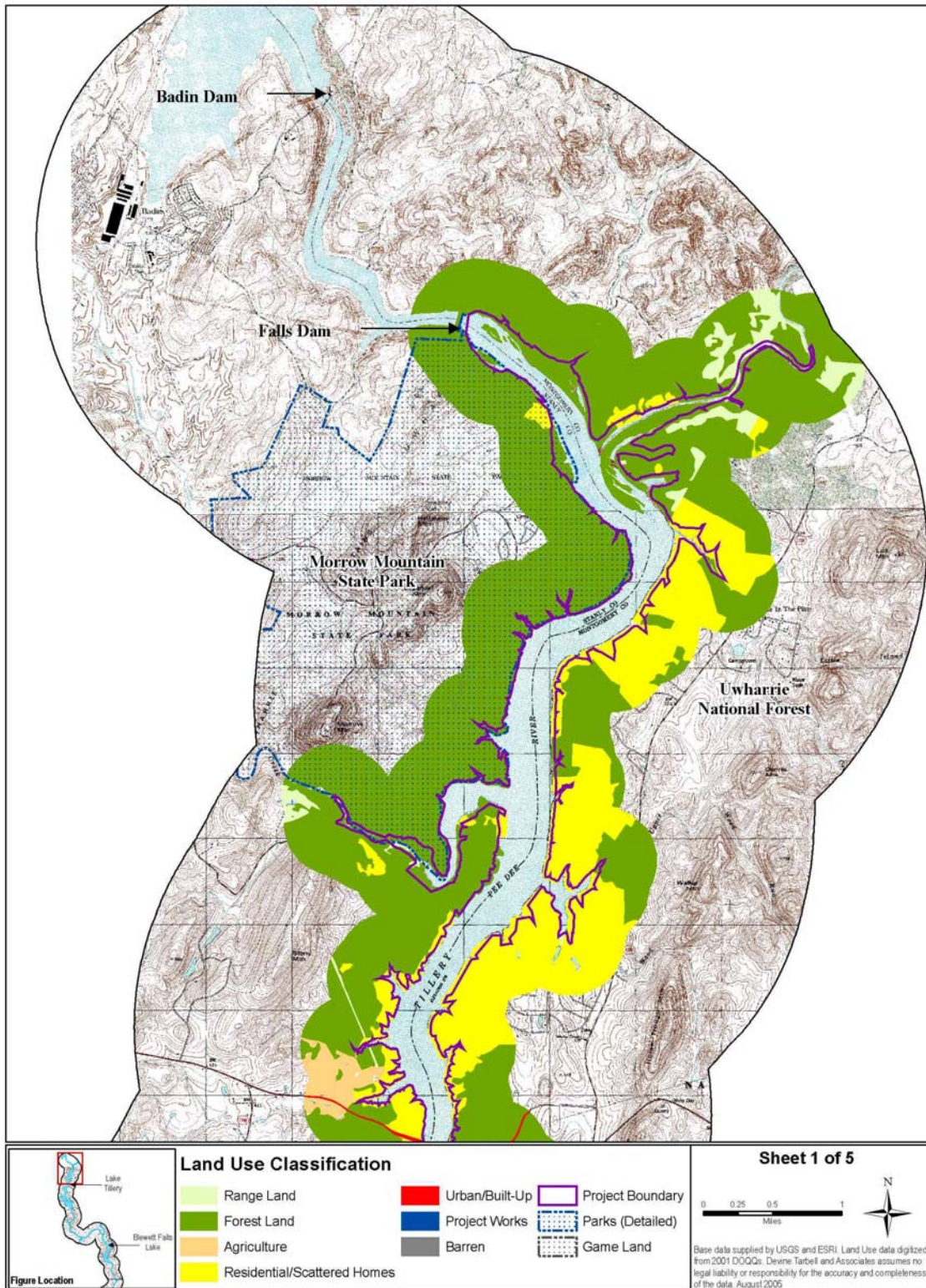


Figure E8-2 Yadkin-Pee Dee River Project land use maps (Sheet 1 of 5).



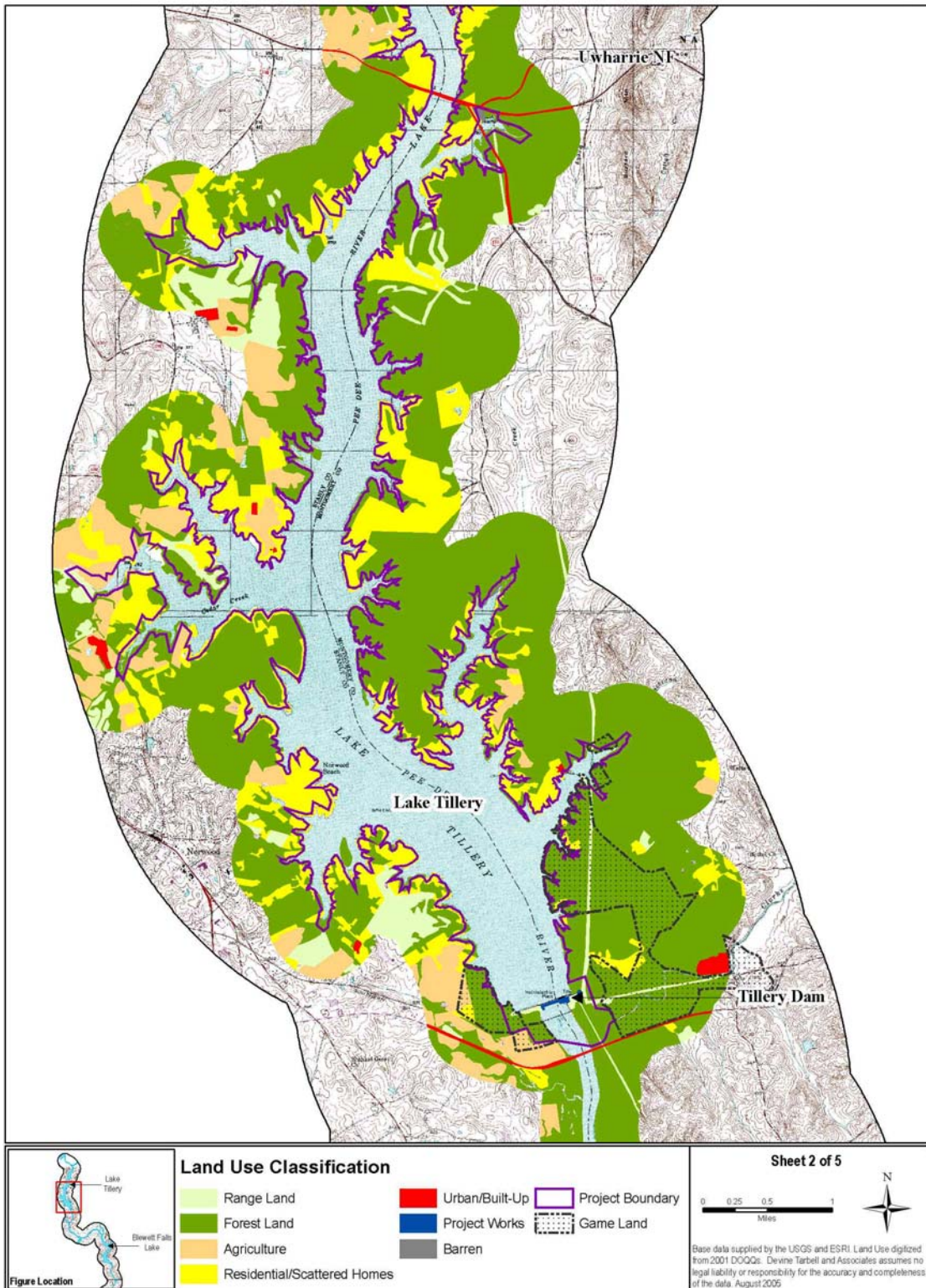


Figure E8-2 Yadkin-Pee Dee River Project land use maps (Sheet 2 of 5).



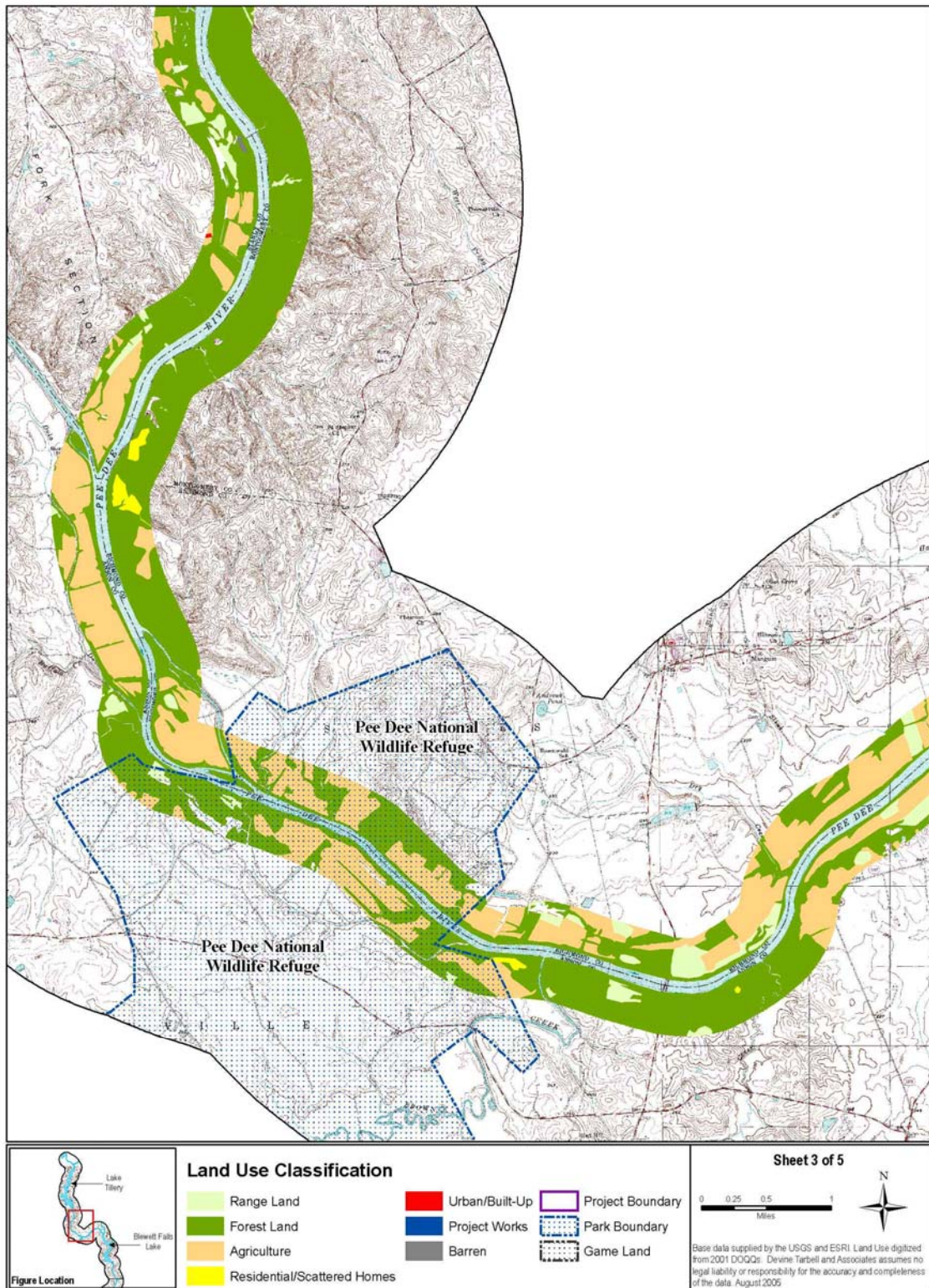


Figure E8-2 Yadkin-Pee Dee River Project land use maps (Sheet 3 of 5).



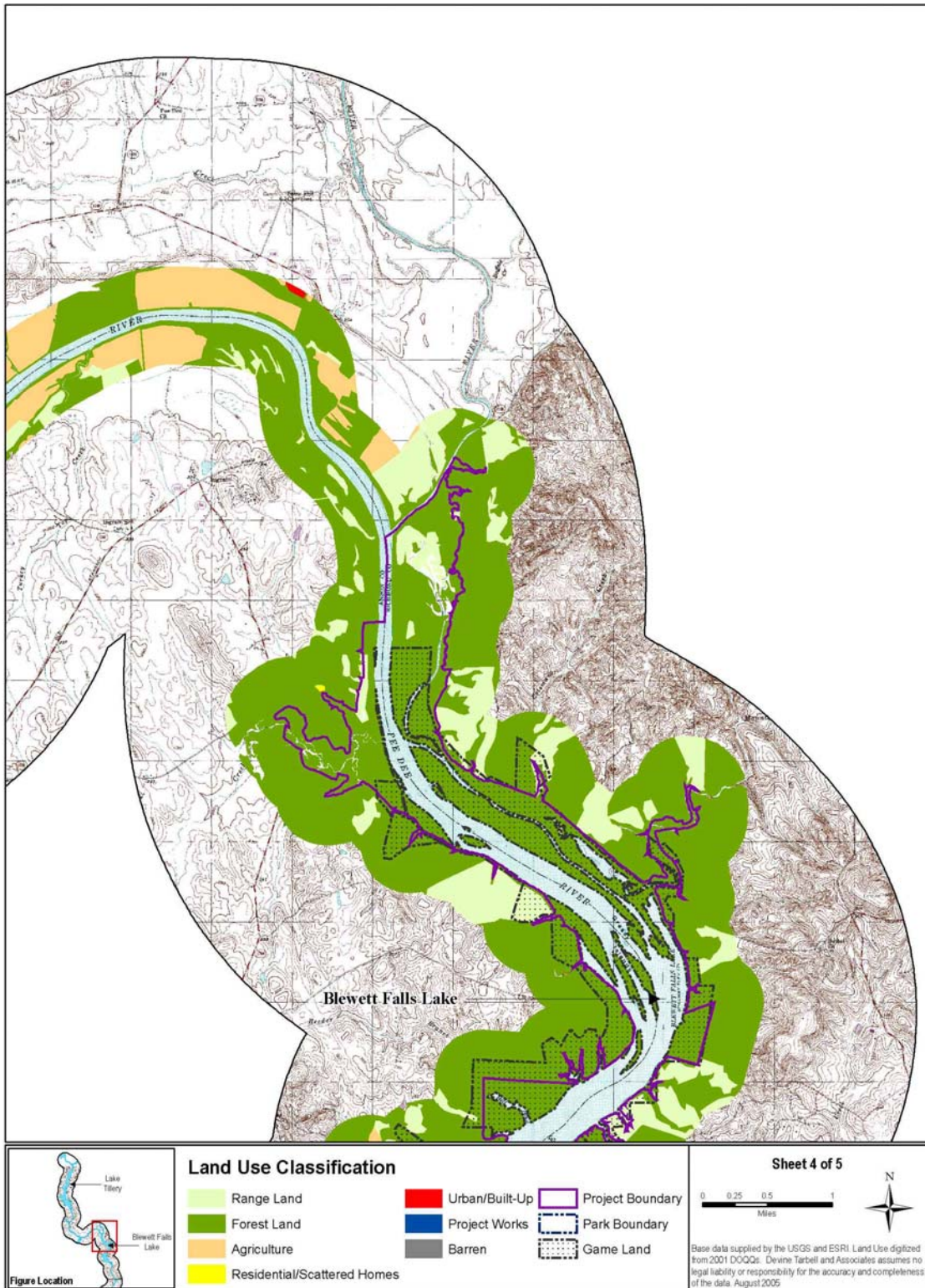


Figure E8-2 Yadkin-Pee Dee River Project land use maps (Sheet 4 of 5).



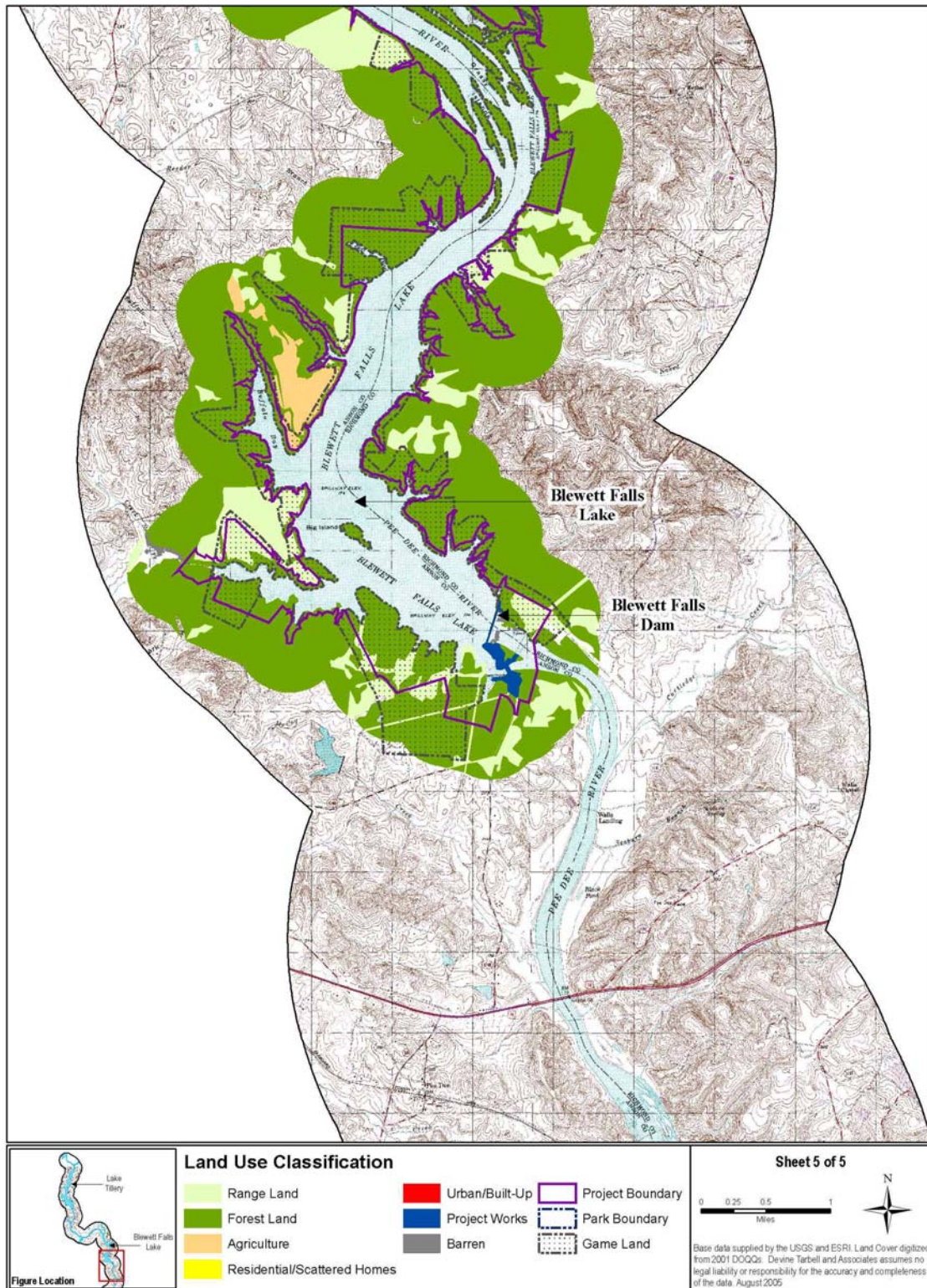


Figure E8-2 Yadkin-Pee Dee River Project land use maps (Sheet 5 of 5).



- **Forest Land** - includes the following cover types:
  - **Hardwood Forest:** This type consisted of areas dominated by deciduous trees. Hardwood forest habitats are located primarily away from roads and residential dwellings. Typical species of this habitat unit include tulip tree, red maple, oaks (*Quercus* spp.) and hickories (*Carya* spp.).
  - **Mixed Hardwood/Pine Forest:** This type consisted of forested areas dominated by neither hardwoods nor pines. Mixed hardwood/pine forest habitats are located throughout the study area, typically away from roads and residential dwellings. Typical species of this habitat unit include red maple, oaks, hickories, tulip tree, white pine, pitch pine, and Virginia pine.
  - **Pine Forest:** This type consisted of forested areas dominated by evergreen trees, both naturally occurring and pine plantations. Pine forest habitats are generally located on the ridge tops and along undisturbed drainage ways. Typical species of this habitat unit include white pine, pitch pine, Virginia pine and hemlock.
- **Range Land** - includes the following cover types:
  - **Grass/Pasture:** This type consisted of areas dominated by grasses or other herbaceous species with little or no trees or shrubs. Grass/Pasture habitats are located primarily near developed areas such as residential dwellings. Many of these areas are actively maintained in a herbaceous state by human activities or grazing.
  - **Scrub/Shrub:** This type consisted of areas dominated by shrubby vegetation. Typically, these areas are former crop or pasture lands (cleared from original forestland) that have grown up in brush in transition back to forestland. Scrub-shrub habitats are generally located near roads and residential dwellings especially current or former farms and along maintained rights-of-way.
- **Agricultural Lands:** This type consists of cultivated trees, shrubs, and crops (corn and wheat).
- **Residential / Scattered Homes:** Areas characterized by a high percentage (30 percent or greater) of constructed materials for residential dwelling (e.g., asphalt, concrete, buildings, etc.).
- **Urban / Built-Up:** Includes infrastructure (e.g., roads, railroads, etc.) and all highly-developed areas not classified as Residential / Scattered Homes.
- **Project Works:** Includes infrastructure related to Project.
- **Barren:** This type consisted of areas devoid of vegetation or so sparsely vegetated that it could not be included in another category, this lack of vegetation could be natural or due to human related activities. Typical ground cover includes gravel, loam and ledge. Typical species of this habitat unit include dogwoods, alders, multiflora rose, blackberries, and elderberry.

Areas of open water are noted on the land use maps, but are not included in the land use acreage summaries presented in Table E8-3.

### 8.2.2 Shoreline Land Use

#### *Shoreline Classification*

For Lake Tillery, Progress Energy has classified, as part of the SMP for Lake Tillery, all of the land within the Project Boundary according to land use. Progress Energy classified the shoreline land use

of the reservoir into a total of eight categories. The definitions of these categories are presented below.

- **Commercial** - Project lands that are under commercial leases, lands where boats can be launched, retrieved or moored for a fee, and where provisions for food services, convenience retailing including petroleum dispensing, wet and dry storage of watercraft and other activities customarily associated with marinas and campgrounds are located. This classification can also include commercial slips and/or docking facilities for the purpose of providing access to the lake for residential property such as subdivision access lots.
- **Residential** - Project lands adjacent to private lands developed for residential use. Residential lands are lands that have existing houses adjacent to them, current leases, or current subdivision maps. These lands may be leased for non-commercial private piers, boathouses, boat shelters, and boat docks that serve single-family dwellings.
- **Agricultural** - Project lands under agricultural leases or adjacent to cultivated fields or pasture lands.
- **Project Operations** - Project lands associated with hydropower production, including but not limited to the dam, powerhouse, and other hydroelectric property.
- **Public Infrastructure** - Project lands occupied by public, non-recreational facilities supporting regional needs. This classification may include land leased for over-head distribution line corridors and rights-of-ways granted for public bridges, causeways, roads, and lands leased for public water supply intakes.
- **Public Recreation** - Public recreation lands are sub-classified into two categories; developed public recreation and undeveloped public recreation.
  - *Developed public recreation* lands are project lands under public recreation leases occupied by facilities supporting various public recreational amenities or project lands adjacent to public lands that afford public access to the water, such as public boat ramps and parking areas, public fishing piers such as those leased at no charge to the NCWRC.
  - *Undeveloped public recreation* lands are those lands that are located in the boundary of Morrow Mountain State Park and the Uwharrie National Forest that are available for use by the general public, but do not contain facilities.
- **Undeveloped Lands** - Undeveloped Project lands are shoreline lands that are located adjacent to undeveloped project (non-shoreline) lands, lands in conservation trust, or undeveloped Progress Energy lands. (CP&L 2001)

Linear shoreline total for each of the land classification types are listed in Table E8-4. The majority of the shoreline at Lake Tillery (53.9 percent) is classified as residential. This is followed by undeveloped land and undeveloped public recreation lands at 27.5 and 10.4 percent, respectively.

**Table E8-4 Current Lake Tillery shoreline land use classification.**

Shoreline Classification	Shoreline Miles	Percentage
Commercial	2.2	1.8
Residential	63.5	53.9
Agricultural	5.4	4.6
Project Operations	1.1	0.9
Public Information	1.0	0.9
Developed Public Recreation	0.8	0.7
Undeveloped Public Recreation	12.2	10.4
Undeveloped Lands	32.5	27.5
Total	118	100.0

The shoreline at Blewett Falls Lake is primarily considered as Undeveloped Lands. There are only four waterfront leases at Blewett Falls Lake which are considered as residential as well as the public access areas at the Pee Dee, Grassy Islands, and canoe portage locations. Progress Energy has documented shoreline aquatic habitat at Blewett Falls Lake (Figure E8-3). This study was conducted to characterize the shoreline aquatic habitat for Blewett Falls Lake and was developed during relicensing stakeholder consultation meetings held in 2003 (see Progress Energy 2004, Issue No. 13: Shoreline aquatic habitat mapping of Blewett Falls Lake is support of development of a shoreline management plan). Results of this study are incorporated directly into this Exhibit (Figure E8-3).

### ***Long-Term Management Goals***

#### **■ Tillery Development**

Progress Energy's goal in managing its lands within the Project Boundary at Lake Tillery is to balance the competing interests for the resources offered by Lake Tillery and its shoreline. Progress Energy manages these lands to serve the greater public interest, providing for recreational access, development of residential and commercial areas, preservation of important wildlife habitat, power production, protection of cultural resources contained within the Project Boundary, and consideration of the aesthetic resources of the Lake Tillery Development. This balance is maintained through the provisions of the SMP, enforcement of Progress Energy's "Guidelines for the Use of Leased Properties at Lake Tillery" (Guidelines), consultation with interested parties, and the continued work of Progress Energy to identify significant natural areas within the Project Boundary (CP&L 2001).

#### **■ Blewett Falls Development**

Progress Energy's goal in managing its lands within the Project Boundary at Blewett Falls Lake is to preserve the natural character and unique environmental features of the lake. Progress Energy will also continue to provide for public access to the lake for recreational use during the next license term, consistent with the safe and reliable production of hydroelectric power at the Project. The managing of Project lands surrounding the lake will entail preservation of shorelines with no permitting or development of access across Project lands for private use. Progress Energy intends to maintain and improve existing public access areas on the lake, as proposed in Exhibit E7 - Recreational Resources, and work with local county officials and the NCWRC in developing a new boating access area in Richmond County. Siting and development of the new boating access area will take into consideration the shoreline features and aquatic habitat present. Progress Energy will work with the NCWRC to minimize shoreline disturbance associated with the new public access site.

### 8.2.3 Description of Wetlands and Floodplains

The following section provides a discussion of federal, state, and local regulations protecting wetlands and floodplains, as well as an overview of wetlands and floodplains within the Project areas.

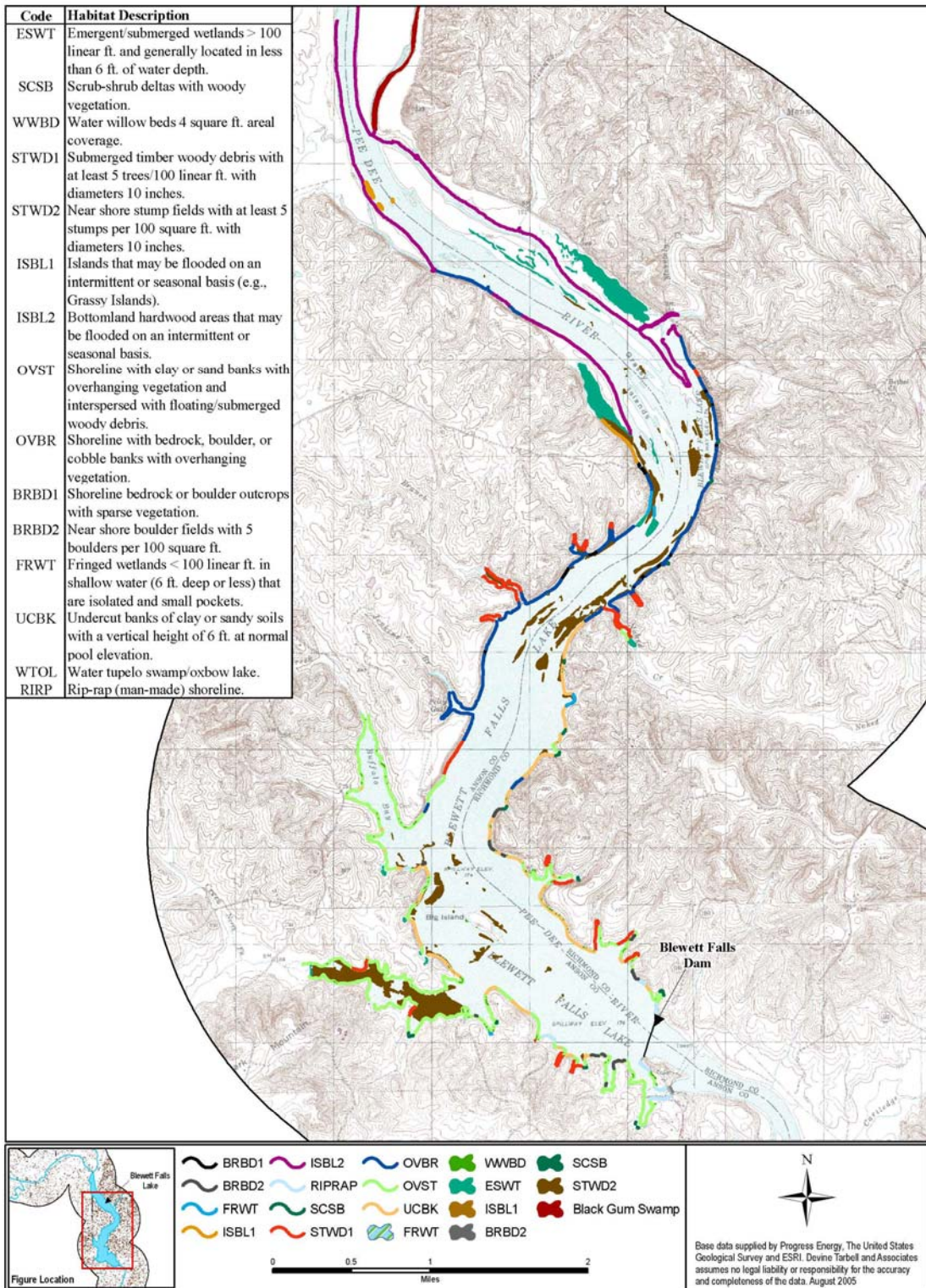


Figure E8-3 Blewett Falls Lake shoreline aquatic habitat map.

### 8.2.3.1 *Laws Governing Wetlands and Floodplains in the Project Area*

Wetlands and floodplains are subject to various federal, state, and local regulations. In general, federal and state regulations apply to all wetlands and floodplains within the state; local regulations apply only to those wetlands and floodplains that fall within the local (county) jurisdictional boundaries.

#### ***Federal Laws and Regulations Governing Wetland Protection***

The principal federal law that regulates activities in wetlands is the Clean Water Act (CWA), specifically Sections 404 and 401. Other relevant federal laws include Section 10 of the Rivers and Harbor Act, the 1985 Food Security Act, and the 1990 Food, Agriculture, Conservation, and Trade Act's Swampbuster Provision. These regulations are currently under review by the federal government and proposed changes have been outlined. No new regulations have been adopted to date.

At the federal level, the primary legislation related to floodplain protection is Executive Order 11988 (May 24, 1977). This order directs federal agencies to evaluate the potential effects of any actions within floodplains to avoid short- and long-term adverse impacts associated with their proposed modification. Determination of floodplain areas is based on National Flood Insurance Program (NFIP) maps or the best available information. At the county level, floodplain protection is achieved through a variety of policies and regulations, and Flood Insurance Rate Maps (FIRM) maps are used to determine the boundaries of the 100-year floodplain. Most counties implement floodplain policies through a critical areas ordinance, which often requires a certificate of elevation (at or above the 100-year flood) as well as shoreline setbacks from the ordinary high-water mark.

Another federal law, Section 10 of the Rivers and Harbor Act of 1899, prohibits the unauthorized obstruction or alteration of any navigable water of the U.S. The provisions of the Act apply to all structures or work below the ordinary high-water mark of navigable fresh waters. Actions that are proposed “in, over, or affecting” navigable waters must comply with this law.

The 1985 Food Security Act and 1990 Food, Agriculture, Conservation, and Trade Act contain a provision regarding wetland conversions to agricultural land. This provision, known as Swampbuster, denies eligibility for all U.S. Department of Agriculture (USDA) farm programs to farmers who convert wetlands to cropland, hayland, or pastureland. Farmers who apply for certain USDA programs must certify that they will not produce agricultural commodities on wetland that was converted after December 23, 1985, or agricultural commodities or hay and pasture on wetland converted after November 28, 1990.

#### ***State Laws and Regulations Governing Wetland Protection***

In North Carolina, Section 401 of the Clean Water Act delegates authority to the state to issue a 401 Water Quality Certification for all projects that require a Federal Permit (such as a Section 404 Permit). The “401” is essentially a verification by the state that a given project will not degrade Waters of the State (including wetlands) or otherwise violate water quality standards.

If the ACOE (Wilmington District) determines that a 404 Permit is required because the proposed project involves impacts to wetlands or waters, then a 401 Water Quality Certification is also

required. The ACOE also determines which type of permit is applicable to your work, a Nationwide, Regional, General, and Individual Permit. For each of the Nationwide, Regional or General Permit, a matching General Certification must be issued by NCDWQ in order for the Permit to be valid. An Individual 401 Water Quality Certification is necessary if an Individual 404 Permit is required. Once the ACOE has determined which type of permit should be used, the applicant can read the matching General Certifications on the NCDWQ web page. The “joint” permit application is sent to the NCDWQ for review and authorization.

### ***Regulations Governing Floodplain Protection***

At the federal level, the primary legislation related to floodplain protection is Executive Order 11988 (May 24, 1977). This order directs federal agencies to evaluate the potential effects of any actions within floodplains to avoid short- and long-term adverse impacts associated with their proposed modification. Determination of floodplain areas is based on FEMA maps or the best available information. At the county level, floodplain protection is achieved through a variety of policies and regulations, and FEMA maps are used to determine the boundaries of the 100-year floodplain. Most counties implement floodplain policies through a critical areas ordinance, which often requires a certificate of elevation (at or above the 100-year flood), as well as shoreline setbacks from the ordinary high-water mark.

#### *8.2.3.2 Wetlands and Floodplains in the Project Area*

Wetlands are those areas generally defined as inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (ACOE 1987).

Due to the size and nature of the Project, wetland habitat is quite common at both Project developments. Wetland habitat present in the Project area supports botanical species assemblages containing a variety of species including those associated with black gum swamps such as water tupelo (*Nyssa aquatica*), red maple, water hickory (*Carya aquatica*), and a sparse shrub and herb layer and bottomland hardwood forests dominated by species including cherrybark oak (*Quercus pagoda*), water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), sycamore, green ash (*Fraxinus pennsylvanica*), red maple, muscadine (*Vitis rotundifolia*), poison ivy (*Toxicodendron radicans*), catbriar (*Smilax* sp.), Japanese honeysuckle (*Lonicera japonica*), Chinese privet (*Ligustrum sinense*), black willow (*Salix nigra*), sedge species (*Carex* spp.), giant cane (*Arundinaria gigantea*), smartweeds (*Polygonum* spp.), lizard’s tail (*Saururus cernuus*), and southern wild rice (*Zizanopsis miliacea*) (Framatome 2002). The most extensive wetland habitat in the Project area is located in the Grassy Islands area in the upper reaches of the Blewett Falls Development.

A detailed description of wetlands documented within the Project Boundary is provided in Exhibit E5, Section 5.4.1.2. Floodplain inundation maps showing the 100-year flood zone are included as Figure E8-4.



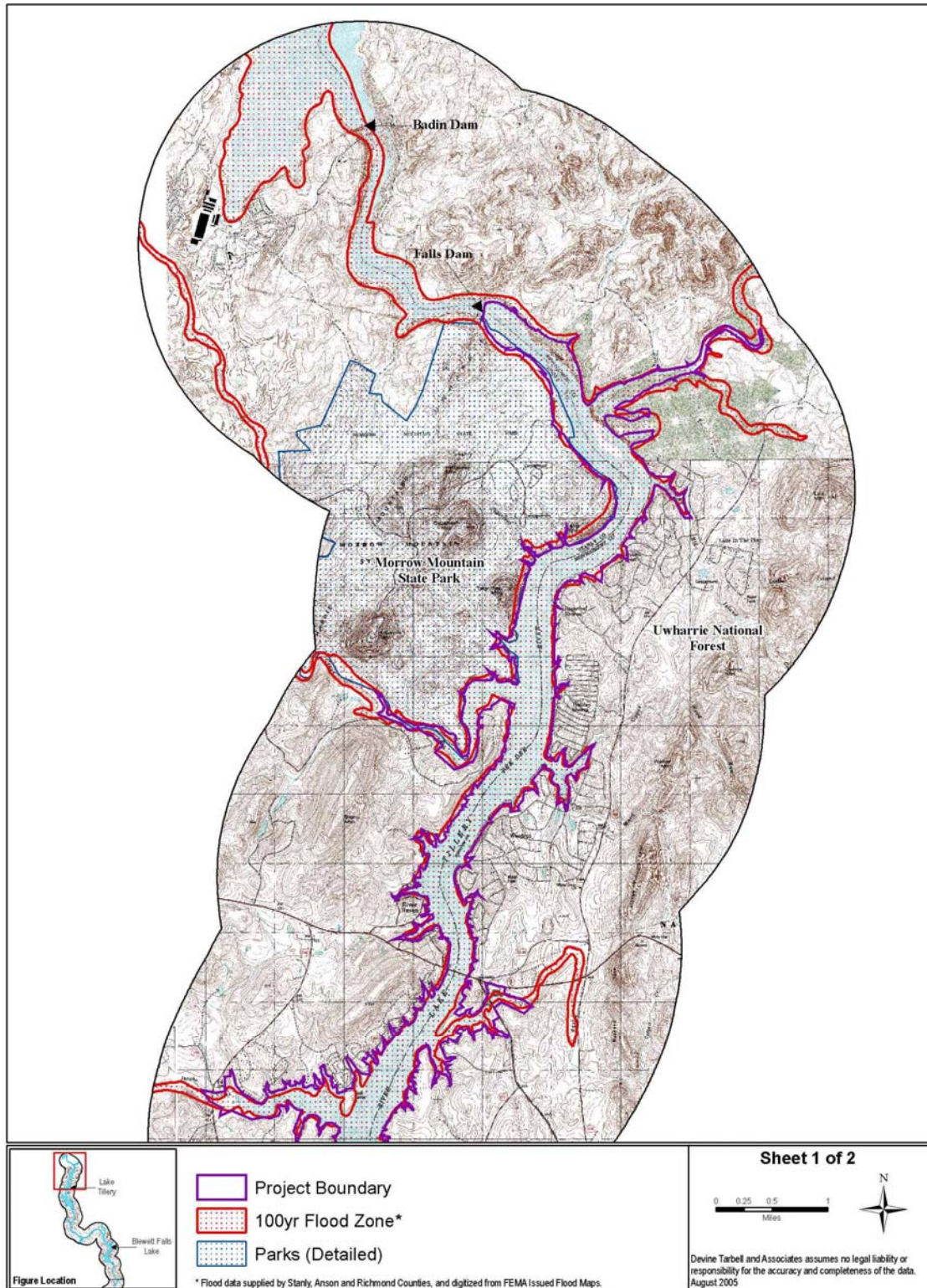


Figure E8-4 Yadkin-Pee Dee River Project inundation maps (Sheet 1 of 3).

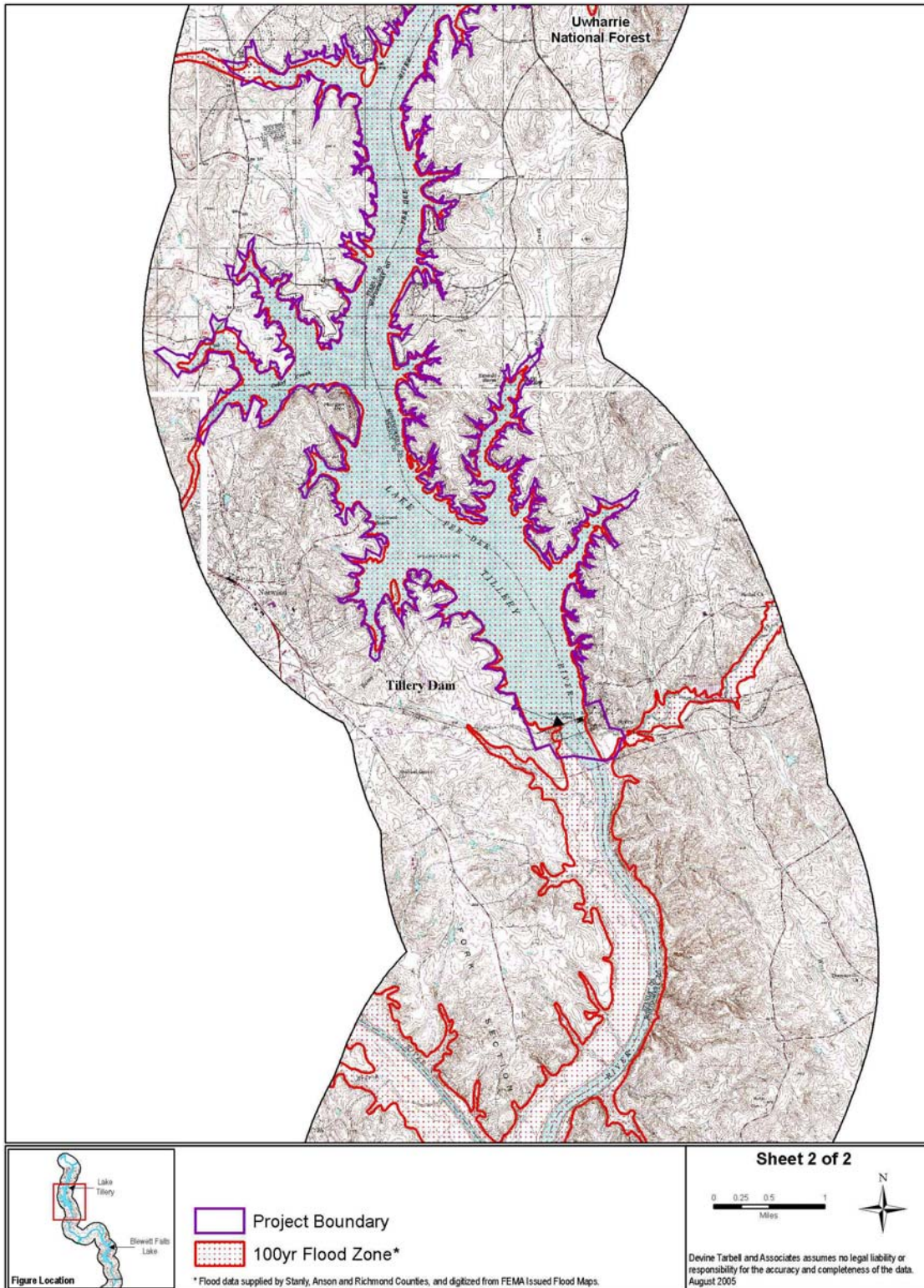


Figure E8-4 Yadkin-Pee Dee River Project inundation maps (Sheet 2 of 3).



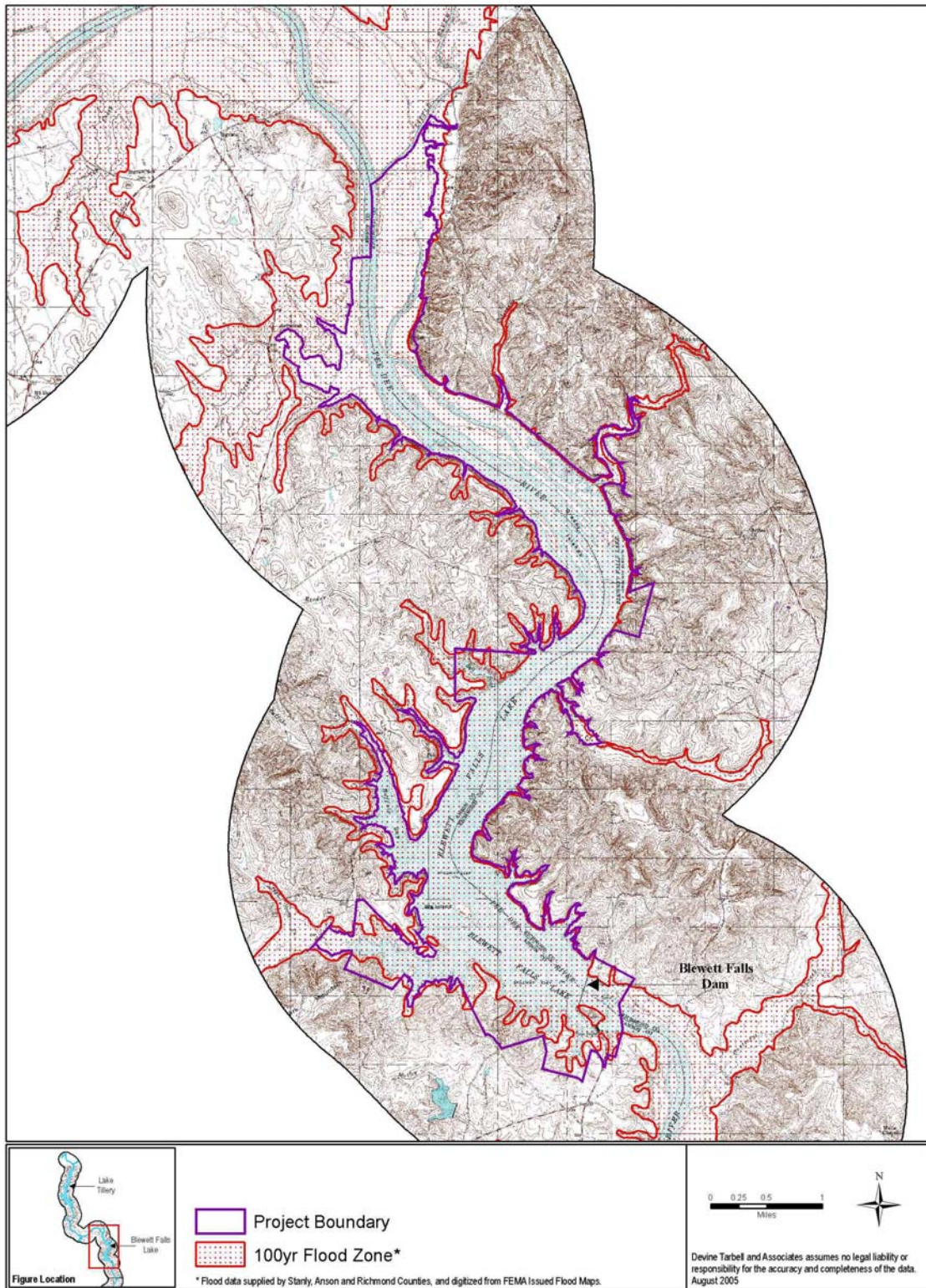


Figure E8-4 Yadkin-Pee Dee River Project inundation maps (Sheet 3 of 3).

#### 8.2.4 Aesthetic / Visual Resource Character

The Uwharrie Lakes region, in North Carolina's central piedmont, consists of rolling hills accentuated by one of the oldest mountain ranges in North America—the Uwharrie Mountains (Yadkin-Pee Dee Lakes Project website 2002). The Uwharrie Mountains are aligned northeast to southwest in the Project area and range up to approximately 1,000 ft above msl in elevation (U.S. Department of Agriculture [USDA] 2001). The upper reaches of Lake Tillery, just below Falls Dam, is where the Pee Dee River has cut through the hills associated with the Uwharrie Mountains.

The Uwharrie Lakes region encompasses six lakes that were formed as a result of the construction of six hydroelectric dams along a stretch of the river from Salisbury, North Carolina, downstream approximately 60 miles to the Blewett Falls Dam near Rockingham. Numerous tributaries enter the Yadkin and Pee Dee rivers in this area including the South Fork of the Yadkin River, the Rocky River, the Little River, and the Uwharrie River. The Pee Dee River is formed by the confluence of the Yadkin and Uwharrie rivers.

As the river flows downstream from the upper reaches of Lake Tillery into Blewett Falls Lake, it passes through terrain that is changing from a pronounced hilly region to a more subtle rolling topography associated with the Piedmont. The Piedmont region's center is marked by gently rolling, pine-dotted hills, with long ridgelines and well-rounded hills (NCDENR 2002). The Pee Dee River continues downstream until it reaches the upper reaches of the Blewett Falls development. The Pee Dee River below Lake Tillery was rated by the NPS as having ORV designation for scenery. The ORV scenic designation is provided to rivers due to elements of landform, vegetation, water, color, and related factors that result in notable or exemplary visual features and/or attractions (NPS 2001).

Although the Project is located in a rural farming region characterized by rolling hills, much of the land immediately adjacent to the Project is forested and managed for timber. The landscape around the Project is rolling hills, forestland, and farmland. Pine and hardwood species are mixed within a secondary forest growth along the shoreline. There is no urban development along this stretch of the river.

Lake Tillery has experienced greater shoreline residential development than Blewett Falls. While there are over 1,000 homes and cottages along the Tillery shoreline, there are only a few homes or seasonal dwellings at Blewett Falls Lake. Development along Lake Tillery and Blewett Falls Lake within the Project Boundary is managed by Progress Energy. Outside of the Project Boundary, federal and state authorities as well as local counties regulate land use and development.

The existence of Lake Tillery positively affects the aesthetic character along the river. One of the most dramatic view points in the region is the view of the river looking downstream from the viewpoint at Morrow Mountain State Park (Figure E8-5). From this viewpoint, the Project features and any effects of Project operations are not visible. The shoreline along Lake Tillery consists primarily (53.9 percent) of residential development. This becomes more evident as you travel downstream from the upper reaches of the lake towards the dam. The view transitions from a mainly forested shoreline in the area of Morrow Mountain State Park (Figure E8-6) to that consisting more of shoreline houses and docks dispersed along the shoreline. The view of Morrow Mountain, as well as smaller mountains such as Tater Top Mountain, are also aesthetic features enjoyed from the lake





**Figure E8-5 View south to Lake Tillery from Morrow Mountain.**



**Figure E8-6 View of upper reaches of Lake Tillery from Morrow Mountain State Park.**

and shoreline in the upper areas of Lake Tillery (Figure E8-7). There is very little effect from the Tillery Development on the view looking downstream from the lake surface toward the Tillery Dam. The powerhouse is located on the downstream side of the dam and is not visible from the lake. Also, the dam itself is not prominent in the viewshed. The dam and power plant make up the primary view as you look upstream from the tailwaters especially from the N.C. Highway 731 Bridge crossing (Figure E8-8).

Shoreline development on Lake Tillery is guided by the SMP developed by Progress Energy and approved by FERC. Within that plan are guidelines for working in and around the Project Boundary along the river that is consistent with the resource agencies management objectives and goals.

Blewett Falls Lake is much different than Lake Tillery in that it is within an area characterized as more rolling hills with less relief than the upper reaches of Lake Tillery. The predominate difference, however, lies in the virtually undeveloped and undisturbed nature of the Blewett Falls shoreline. The upper two thirds of the lake lie in their natural state and are frequented by numerous wildlife, especially a rich bird life. Shoreline development has been minimal with only a few houses visible along the entire lake. The lack of shoreline development results in views of primarily an undisturbed vegetated shoreline (see Figure E8-9).

The lack of structures associated with the Blewett Falls Development also positively effects the aesthetic character of the river. There is very little influence of Project structures on the view looking downstream toward the Blewett Falls Dam. The powerhouse is located on the far western shoreline, downstream of a 300-ft forebay canal, on the downstream side of the dam and is not visible from the lake. Also, the dam itself is does not project into the viewshed looking downstream (see Figure E8-10).

The Blewett Falls Dam is the primary view when looking upstream from the informal public access point below the dam (see Figure E8-11). Of course, at this point one expects to be viewing the Project structures. The powerhouse and associated transmission lines are set back from the river and are only visible on the river as you travel past this location or from the east shoreline (see Figure E8-12)

Progress Energy documented views from all public access points at each development. Those locations with the greatest opportunity for an expansive view of the lakes included the Stony Mountain access area on Lake Tillery and the canoe portage and access area at Blewett Falls Lake (Figures E8-13 and E8-14).





**Figure E8-7** View of Morrow Mountain and smaller mountains from Holiday Shores access.



**Figure E8-8** View looking upstream towards Tillery Hydroelectric Plant from the N.C. Highway 731 Bridge.



**Figure E8-9** Typical view of vegetated shoreline at Blewett Falls Lake.



**Figure E8-10** View looking south toward Blewett Falls Dam from the Pee Dee public access.





**Figure E8-11 View looking north or upstream at Blewett Falls Dam.**



**Figure E8-12 View looking west across to Blewett Falls' powerhouse from the canoe portage.**





**Figure E8-13** View of Lake Tillery from Stony Mountain access.



**Figure E8-14** View of Blewett Falls Lake looking north from Canoe Portage.



### 8.3 Project Effects on Land and Aesthetic Resources

The primary Project effect related to land and aesthetic resources results from the shoreline development of abutting landowners and businesses. FERC policy encourages licensees to provide ample public access to project lands and waters at licensed hydroelectric projects. Consistent with this policy, one of the standard conditions of the FERC license also allows the licensee to grant permission for specific uses and occupancies of the Project reservoir and lands for non-project purposes, as long as the proposed use is consistent with the license and protects/enhances the scenic, recreational, and environmental values of the Project. Shoreline development is primarily controlled at FERC-licensed hydro projects through the standard land use article or through the development of a shoreline management plan (SMP). Progress Energy has opted to develop, and FERC has approved in November 2004 an SMP for the Lake Tillery Development (109 FERC ¶ 62,129). Progress Energy has developed a shoreline management policy for Blewett Falls, after consultation with stakeholders, which is included in Section 8.7 of this License Application.

The existing Lake Tillery SMP manages development of approximately 118 miles of shoreline to accommodate the variety of uses that take place within the FERC project boundary. The SMP management components include a lease program and dock permitting program designed to protect the riparian shoreline and aquatic habitat at the Project that is implemented through Progress Energy's "Guidelines for the Use of Leased Property at Lake Tillery" (SMP Guidelines). The SMP also includes provisions to protect historic properties developed to satisfy the requirements of Section 106 of the National Historic Preservation Act. The leasing program that serves as the foundation of the SMP is designed to ensure the protection of public recreation opportunities, aesthetic beauty, environmental features, historic properties, regulatory compliance and power production capability at the Project. The SMP Guidelines include provisions that address the following categories:

- soil disturbance;
- vegetation (buffers, use of pesticides/herbicides/fertilizers, and aquatic vegetation);
- shoreline stabilization;
- dredging/filling;
- septic systems;
- miscellaneous items;
- special uses;
- private development (boathouses, boatslips, piers, decks, walkways, fences, and prohibited uses);
- commercial facilities;
- violation penalties and mitigation; and
- the grandfathering of existing facilities with triggers that require updating to current standards.

The SMP also strongly supports the use of native vegetation in plantings under the lease program and includes a guidance document titled "Landscaping with Native Plants in a Riparian Buffer Area - Environmentally Sensitive/Aesthetically Pleasing."

The SMP allows for two types of leases: private recreational and commercial. Under both types of leases, Progress Energy attempts to balance the requests of the lessees and applicants with the Project's environmental, historic and aesthetic values, recreational use, public good, and other Project purposes while meeting regulatory requirements through evaluation of the proposed lease

according to the approved guidelines. Based on habitat mapping completed during development of the SMP, certain areas around Lake Tillery have been designated as Environmental/Natural, and no development is allowed under either leasing programs in these areas to protect important wildlife and aquatic habitat. The SMP also maintains a vegetative buffer of at least 30 ft around the Project impoundment and requires that permittees maintain at least 75 percent of the leased areas in a natural, undisturbed condition under both types of leases.

Private recreational leases allow abutting residents to seek approval for the construction of facilities that are primarily “water-based” such as docks, boathouses and retaining walls. The permitting process begins with consultation with Progress Energy to discuss the proposed lease and to review details of the proposed construction including site plans, existing and proposed square footage of water-dependent structures, specifications of all construction materials, plans for erosion and sedimentation control during construction and applicable local, state, and federal permits.

Commercial enterprises can similarly apply for approval of water-based facilities and the application process for commercial facilities is similar to that described above for private recreational leases. However, the SMP allows a wider range of commercial construction activities within the Project Boundary than that allowed for residential, because the commercial facilities provide important recreational opportunities to the public in general as compared to private shoreline development.

Normal daily operations of the Project can result in the change of water surface elevations of Blewett Falls Lake of up to 4 ft or more. Operational requirements as described in Exhibit B demand that changes in water levels occur on a daily basis for power production purposes and to reduce the level of flow fluctuations from upstream users. The change in water level results in a change in character of the view from the water surface. The view changes from being dominated by shoreline vegetation to being co-dominated by a band of exposed substrate between the water surface and the shoreline vegetation. There is little effect on the view looking towards the dam during this condition (see Figures E8-15 and E 8-16).

Progress Energy is proposing no significant changes in lake level fluctuations compared to current conditions. Blewett Falls is likely to have a greater frequency of lake level fluctuations, and these fluctuations will be more likely to be between 2 and 4 ft instead of the current 2 to 3 ft. This is primarily due to the significant increase in the minimum flows below the Blewett Falls Development. This change in operations is unlikely to change a viewers sense of the band of exposed substrate between the water surface and shoreline vegetation. In addition, it is important to note that Blewett Falls will continue to operate in a run-of-river mode without any daily reservoir fluctuation for almost 50 percent of the time on an annual basis. There will be no change in the limits of the 100-year flood levels in the Project area.



**Figure E8-15 View looking south toward Blewett Falls Dam from Pee Dee public access with water surface approximately 2 ft below normal maximum elevation at Blewett Falls Dam.**



**Figure E8-16 View looking upstream or northeast on Blewett Falls Lake from Pee Dee public access with water surface approximately 2 ft below normal maximum elevation at Blewett Falls Dam.**

## 8.4 Measures to Address Land Management and Aesthetic Resources

As noted above in Section 8.3, Progress Energy developed and began implementing a formal SMP for Lake Tillery in 2001. The SMP was reviewed and approved by FERC on November 21, 2004 (109 FERC ¶62,129). The SMP provides guidelines to abutters on the types of uses allowed on Project lands and the permitting procedures required to obtain Progress Energy approval. The SMP is structured to streamline updates as standards and permitting procedures change to address new requirements or issues that arise related to shoreline management at the Project. The Lake Tillery SMP allows residents to seek approval for the construction of facilities that are primarily “water-based” such as docks, boathouses and retaining walls. Commercial enterprises can similarly apply for approval of water-based facilities but the SMP allows a wider range of commercial construction activities within the Project Boundary than that allowed for residential, because the commercial facilities provide important recreational opportunities to the public in general as compared to private shoreline development. The FERC-approved SMP also maintains a vegetative buffer of at least 30 ft around the Project impoundment and requires that permittees maintain at least 75 percent of the leased areas in a natural, undisturbed condition. The Tillery SMP also identified environmental/natural sensitive and impact minimization zone areas, and shoreline development is either prohibited or restricted in these environmentally-sensitive areas which include wetlands and other aquatic habitat, such as water willow beds.

## 8.5 Comprehensive Plans

Under 18 CFR 16.8, each license application must identify relevant comprehensive plans and explain how a proposed project would or would not comply with the relevant plans. FERC current list of comprehensive plans is dated March 2006 and includes several management and land use plans for North Carolina. The majority of these plans are not associated with, specific to or in the same geographic area as the Yadkin-Pee Dee River Project. Progress Energy has reviewed the applicable comprehensive plans and all address water quality related issues at the Project. Land management practices under the Lake Tillery SMP are designed to maintain shoreline buffers and to permit shoreline development with a goal of minimizing shoreline impact from both construction and use of the facilities. The following is a list of the FERC comprehensive plans.

- North Carolina Department of Environment and Natural Resources. 2002. Basinwide assessment report: Yadkin River Basin. Raleigh, North Carolina. June 2002.
- North Carolina Department of Environment and Natural Resources. 2000. Subchapter 2B - Surface water and wetland standards. Raleigh, North Carolina. August 1, 2000. 107 pp.
- North Carolina Department of Environment and Natural Resources. 2003. Yadkin-Pee Dee River Basinwide water quality management plan. Raleigh, North Carolina. February 2003.
- North Carolina Department of Environment and Natural Resources. 2004. Yadkin-Pee Dee River Basin (Classifications and Water Quality Standards). Raleigh, North Carolina. August 1, 2004.
- North Carolina Department of Environment and Natural Resources. 2000. Water Quality Progress in North Carolina 1998-1999 305 (b) Report. Raleigh, North Carolina. March 2000.
- North Carolina Department of Environment and Natural Resources. 2003. Statewide Comprehensive Outdoor Recreation Plan, 2003-2008. Raleigh, North Carolina.
- Southern Appalachian Forest Coalition and Pacific Rivers Council. Undated. Protection of aquatic biodiversity in the Southern Appalachian National forests and their watersheds. 27 pp.

## 8.6 Consultation Regarding Land Management and Aesthetics

Progress Energy published its Initial Consultation Document (ICD) for relicensing the Yadkin-Pee Dee River Project in February 2003. At the Joint Meeting held in March 2003, Progress Energy presented an overview of the Project, reviewed information provided in the ICD, and provided an opportunity for stakeholders and the interested public to comment on the ICD and identify concerns and issues related to Project operations and Project effects.

Progress Energy also used the Joint Meeting to invite resource agencies and stakeholders to further participate in the relicensing process by being involved with one or more Resource Working Groups (RWGs). The purpose of the RWG is to provide an opportunity for stakeholders to work jointly on review and discussion of existing data, identify resource issues, identify needed studies and their goals, and to review study plans. RWGs were established for four resource areas: 1) water resources; 2) terrestrial resources; 3) recreation and land use; and 4) cultural resources.

The Recreation and Land Use RWG held its first meeting on May 8, 2003. A list of the meetings that occurred in the Recreation and Land Use RWG is presented below;

- Meeting No. 1..... May 8, 2003
- Meeting No. 2..... June 11, 2003
- Meeting No. 3..... August 13, 2003
- Meeting No. 4..... November 14, 2003

A copy of meeting minutes are provided in Appendix A. Participants in the RWG included state, federal and local authorities, non-governmental organizations as well as interested members of the public. Issues pertinent to the Project were identified and discussed within the RWG. A determination was made by the RWG regarding those issues if there was existing information available to address the issue or if there needed to be additional information collected in order to address the issue. The issues identified within the RWG pertaining to Land Use and Aesthetics that additional study was requested are:

- Issue No. 2 Scenic Vista Opportunities; and
- Issue No. 5 Shoreline Management Plan at Blewett Falls Lake.

Draft study plans were prepared by Progress Energy for those issues which required additional information and study. The RWG reviewed the draft study plans and provided comments. Final study plans were prepared and issued in January 2004. A copy of these study plans are provided in Appendix A of this License Application. Progress Energy performed the studies in 2004 and 2005.

### 8.6.1 Summary of Land Management and Aesthetic PM&E Measures Proposed by Resource Agencies and Other Parties

No comments were received by Resource Agencies or other parties proposing Land Management and Aesthetic PM&E measures.

## 8.7 Summary of Protection, Mitigation, and Enhancement Measures

As a result of the analysis completed by Progress Energy after the consultation and studies performed for the relicensing, Progress Energy proposes to implement measures that will largely protect the Project lands associated with Blewett Falls Lake. Progress Energy's long-term shoreline management goal is to preserve the natural character and unique environmental features of the lake. This preservation will be done in conjunction with enhanced public access to the lake for recreational use, consistent with the continued safe and reliable production of hydroelectric power at the Project. The managing of Project lands surrounding the lake will entail preservation of shorelines by prohibiting shoreline access for privately-owned developments surrounding the lake. Existing permits and shoreline access for the two municipal water intake structures will remain in effect in the next license term.

Progress Energy will develop a written Shoreline Management Policy for Blewett Falls Lake concerning its proposed management of Project lands surrounding the lake. The Blewett Falls Lake Shoreline Management Policy will assist in the protection of endangered species, wetlands, aquatic emergent vegetation, naturally-vegetated buffers, wildlife corridors, and other important fish and wildlife habitats within the Project Boundary. Progress Energy does not intend to develop a formal Shoreline Management Plan for Blewett Falls Lake given that private development permitting for shoreline access and structures is not being proposed for the next license term.

The overwhelming majority of Blewett Falls Lake shoreline has remained essentially undisturbed since the creation of the lake and hydroelectric plant construction in 1912. Discussions with stakeholders during relicensing meetings indicated a strong public interest in maintaining the natural, undisturbed character of the lake (see Exhibit E7 - Recreational Resources). Relicensing environmental studies and additional surveys by the North Carolina Natural Heritage Program have shown the lake supports a very rich diversity of plant and animal species. Four rare plant species (Piedmont aster, Cumberland spurge, prickly hornwort, and water purslane), two significantly rare fish species (Carolina redhorse and highfin carpsucker), and one threatened bird species (bald eagle) have been documented within the varied and rich habitats created by Blewett Falls Lake.

Two unique terrestrial and wetlands habitats — the Grassy Islands and Tupelo Swamp natural areas — occur in the upper reaches of Blewett Falls Lake. These natural areas are of statewide ecological significance meaning these habitat types are unique and found nowhere else in North Carolina. These lands support a variety of floodplain and slope forests, extensive marshes, and an oxbow lake with a rare undisturbed mature stand of water tupelo. Some of the water tupelo trees exceed 250 years of age. The Grassy Islands area also supports a large expanse of levee forest and bottomland hardwood forest along the Pee Dee River. The Grassy Islands provides important wildlife habitat, including breeding migratory neotropical songbirds inhabiting the Pee Dee River corridor.

The Shoreline Management Policy for Blewett Falls Lake will ensure that these environmental resources are protected in the next license term while maintaining the natural character of the lake. Progress Energy intends to maintain and improve the existing public recreation access areas on the lake in the next license term as outlined in Exhibit E7, Section 7.10, Recreational Resources. Progress Energy will work with the NCWRC and local county officials in developing a new boating access area on the Richmond County side of the lake. Siting and development of the new boating access area, as well as the identified access upgrades, will take into consideration the aesthetic

shoreline features and aquatic habitat present. Progress Energy will work with the NCWRC to minimize shoreline disturbance associated with the new public boating access site.

Progress Energy has also proposed several recreational enhancements for Lake Tillery (see Exhibit E7, Section 7.10, Recreational Enhancements). These recreational enhancements include improvements to identified public boating areas, installation of an ADA handicapped accessible fish pier at the Stony Mountain access area, and co-funding of construction of a NCWRC law enforcement boat house facility. Improvements to existing access facilities and construction of the new facilities will be consistent with the Tillery SMP and Progress Energy's SMP guidelines.

Progress Energy proposes no further protection, mitigation, and enhancement (PM&E) measures for the Project lands associated with Lake Tillery. A FERC-approved SMP for Lake Tillery has been in effect since November 2004. Development of the Tillery SMP balances the competing interests that are vying for the resources offered by the Lake Tillery Project and its shoreline. Progress Energy manages these Project lands to serve the greater public interest, providing for recreational access, development of residential and commercial areas, preservation of important wildlife habitat, production of power needs, protection of cultural resources contained within the Project Boundary, and consideration of the aesthetic resources of the Lake Tillery Development. The Tillery SMP identified environmental/natural and impact minimization zone areas, and shoreline development is either prohibited or restricted in these environmentally-sensitive wetlands and aquatic habitats, such as water willow beds. Progress Energy will review the Tillery SMP and file an updated plan with FERC in 2014 which is the required SMP review date.

The licensee's proposed Project operations in the next license term will not impact Project lands. Therefore, no additional PM&E measures for Project lands are proposed by the licensee for the next license term.



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