Yadkin-Pee Dee River Hydroelectric Project FERC No. 2206

Progress Energy

APPLICATION FOR LICENSE

Exhibit E7
Recreational Resources

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Exhibit E7 – Recreation Resources

7.0 Regulations Defining the Contents of Exhibit E7

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

- (5) Report on recreational resources. The report must discuss existing and proposed recreational facilities and opportunities at the project. The report must be prepared in consultation with local, state, and regional recreation agencies and planning commissions, the National Park Service, and any other state or Federal agency with managerial authority over any part of 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 any existing recreational facilities at the project, indicating whether the facilities are available for public use;
 - (ii) An estimate of existing and potential recreational use of the project area, in daytime and overnight visits;
 - (iii) A description of any measures or facilities recommended by the agencies consulted for the purpose of creating, preserving, or enhancing recreational opportunities at the project and in its vicinity (including opportunities for the handicapped), and for the purpose of ensuring the safety of the public in its use of project lands and waters;
 - (iv) A statement of the existing measures or facilities to be continued or maintained and the new measures or facilities proposed by the applicant for the purpose of creating, preserving, or enhancing recreational opportunities at the project and in its vicinity, and for the purpose of ensuring the safety of the public in its use of project lands and waters, including an explanation of why the applicant has rejected any measures or facilities recommended by an agency and described under paragraph (f)(5)(iii) of this section; and
 - (v) The following materials and information regarding the measures and facilities identified under paragraphs (f)(5)(I) and (iv) of this section:
 - (A) Identification of the entities responsible for implementing, constructing, operating, or maintaining any existing or proposed measures or facilities;
 - (B) A schedule showing the intervals following issuance of a license at which implementation of the measures or construction of the facilities would be commenced and completed;
 - (C) An estimate of the costs of construction, operation, and maintenance of any proposed facilities, including a statement of the sources and extent of financing;

- (D) A map or drawing that conforms to the size, scale, and legibility requirements of § 4.39 showing by the use of shading, cross-hatching, or other symbols the identity and location or any facilities, and indicating whether each facility is existing or proposed (the maps or drawings in this exhibit may be consolidated); and
- (vi) A description of any areas within or in the vicinity of the proposed project boundary that are included in or have been designated for study for inclusion in, the National Wild and Scenic Rivers System, or that have been designated as wilderness area, recommended for such designation, or designated as a wilderness study area under the Wilderness Act.

7.1 Introduction

This Exhibit provides detailed information describing the existing and proposed future recreational resources associated with the Yadkin-Pee Dee River Project. This information is based on data collected by Progress Energy during the 2004 to 2005 recreational studies. This Exhibit also contains discussion of proposed protection, mitigation and enhancement (PM&E) measures to address Project effects on recreation resources. Information regarding the relicensing consultation process is also presented in this Exhibit.

Progress Energy's Yadkin-Pee Dee River Project (Project) is located on the Yadkin and Pee Dee rivers in south-central North Carolina. The Project consists of two developments, the upstream Tillery Development and the downstream Blewett Falls Development. The Yadkin-Pee River basin is the second largest in North Carolina covering 7,186 mi² measured at the North Carolina-South Carolina state line. The Yadkin River originates near the town of Blowing Rock, North Carolina and flows northeasterly for approximately 100 miles from the Blue Ridge Mountains into the Piedmont physiographic region. As the river turns southeast, it enters an area in central North Carolina that has experienced considerable urban growth. This growing urban area extends from Charlotte to Raleigh/Durham and is known as the Piedmont Crescent. Just to the south of the Piedmont Crescent, the region enters an area known as the Uwharrie Lakes Region. This region is named for the chain of six reservoirs located along this reach of the Yadkin and Pee Dee rivers, the lowermost 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 (Progress Energy 2003).

The Uwharrie Lakes provide a variety of recreational opportunities including boating, canoeing, swimming, fishing, and most other water sports. The lands surrounding the Project offer scenic beauty and a variety of activities including hiking, camping, hunting, biking, horseback riding, and nature viewing. This region of the state has also been termed North Carolina's "Central Park" with the idea that the area could serve as a rural hub for outdoor recreation and tourism for local residents and the growing urban population of the metro areas in the region (ASU 1999). The Project is located within four counties - Anson, Montgomery, Richmond, and Stanly. Outdoor public recreation facilities are available in each of the counties.

The Pee Dee River below Lake Tillery was rated by the National Park Service (NPS) as having an outstanding remarkable value (ORV) designation for recreation. This designation indicates that the recreational opportunities are, or have the potential to be, popular enough to attract visitors from throughout or beyond the region or are unique or rare within the region (NPS 2001).

Recreational studies were conducted by Progress Energy during 2004 and 2005 in accordance with the study plan developed by the Land Use and Recreation Resource Working Group (RWG) during 2003 and discussions with resource agencies in 2004 and 2005 (Progress Energy 2004). Methods pertaining to the study are described in the study plan located in Appendix A of this License Application.

7.2 Regional Recreation Resources

North Carolina Overview

Approximately 2,756,000 acres or 9 percent of the State of North Carolina is considered as recreational acreage which includes state gamelands and state- and federally-owned forests and parklands. The five most popular outdoor activities in North Carolina are walking for pleasure, driving for pleasure, viewing scenery, beach activities and visiting historical sites (North Carolina State Comprehensive Recreation Plan [NC SCORP] 2005). There are numerous state programs offering recreational opportunities to the public. These are managed under the North Carolina Parks System and the North Carolina Wildlife Resources Commission (NCWRC).

- North Carolina State Parks System The state park system consists of approximately 197,347 acres of land and water organized into 34 park units and 25 other management areas. These consist of parks, lakes, recreation areas, rivers, trails and natural areas distributed throughout the state.
- North Carolina Wildlife Resources Commission The NCWRC was established to manage and regulate the state's wildlife resources and to enforce associated regulations. The NCWRC manages approximately two million acres of state-, federally-, and privately-owned gamelands on which the public may hunt and fish with a special permit. NCWRC also maintains boating access to 80 different water bodies in the state, including the Project reservoirs (NC SCORP 2005).

The federal government also manages a number of federal properties that offer recreational opportunities within the state. These include parks, forests, and wildlife preserves. Agencies providing recreational opportunities include the U.S. Department of Interior (DOI), the U.S. Department of Agriculture (USDA), and U.S. Department of Defense (DOD). Under the DOI, the National Park Service (NPS) administers 10 areas that are set aside for their natural, recreational and historic interest. Also under the DOI, the U.S. Fish and Wildlife Service (USFWS) manage 11 national wildlife refuges comprising 416,000 acres.

The U.S. Forest Service (USFS) administers four areas in the state totaling in excess of 1.24 million acres that make up a significant portion of North Carolina's recreational resources. (NC SCORP 2005) This includes the 50,183 acres of the Uwharrie National Forest located near the Project. In addition, the National Wilderness Preservation System includes 12 designated wilderness areas totaling 111,342 acres administered by the USFS within North Carolina.

The U.S. Army Corps of Engineers (ACOE) has developed four water resource projects in North Carolina that have recreational facilities. One of these, W. Kerr Scott Reservoir, is located on the Yadkin River. The ACOE leases this area to the State of North Carolina (NC SCORP 2005).

Regional Recreation Resources

There are a number of regional attractions in proximity to the Project area providing recreational opportunities and facilities. These attractions include the Uwharrie National Forest, Morrow Mountain State Park, Pee Dee National Wildlife Refuge, and the Pee Dee River Canoe Trail.

- **Uwharrie National Forest** The Uwharrie National Forest was first purchased by the federal government in 1931 during the Great Depression. The 50,189-acre Uwharrie National Forest is located to the northeast of the Tillery Development. The forest provides a variety of natural resources and recreational activities. The Uwharrie National Forest hosts over 240,000 visitors annually (ASU 1999).
 - Camping There are more than 120 camping sites available at 10 designated camping areas within the forest; however, primitive camping is permitted anywhere within the national forest, except where no camping is posted. Designated campgrounds range in amenities from simple tent platforms to full service including water, trailer parking, and pump out services.
 - Fishing The eastern shore of Badin Lake, located upstream of Lake Tillery, borders the National Forest, and the lake is well stocked with catfish, bream, largemouth bass, white bass, and striped bass. The lake is heavily utilized by pleasure boaters in the spring and summer, and bass tournaments are typically held every weekend from March through October. The National Forest also offers river fishing on the Uwharrie River.
 - Hunting The Uwharrie National Forest is part of public lands managed by NCWRC for hunting, trapping, and fishing. Deer, turkey, and small game including rabbits, dove, raccoon, and quail are all popular quarry in the National Forest. The National Forest offers a wide range of hunting opportunities from easy drive-in access to "off the road" adventures.
 - Mining Recreational panning for gold is allowed on most of the Uwharrie National Forest. However, in some areas, the minerals are privately owned and written permission is required from the mineral owner prior to beginning collection. No fee or permit is required as long as only shovel and pan techniques are used and no significant stream disturbance results. In addition to the gold mining, there are ample opportunities to collect rocks and minerals as a hobby with no fee or permit required as long as National Forest rules are followed.
 - Off-Road Vehicle Use There are a total of 16 miles of trails for off-road vehicles (OHV). The trails are open from April 1 to December 15. There is a fee of \$5.00 per day or \$30.00 per season to access these trails. The OHV trail system in the Uwharrie offers a variety of topography and scenery. All trails are designated for all OHVs, except for a small portion of the Dickey Bell Trail located west of SR 6584 which is suitable only for use by ATVs or motorcycles.
 - Mountain Biking There are three trail systems located between Albemarle and Troy
 east of bridges over Lake Tillery and the Pee Dee River. Mountain biking is prohibited
 on the Uwharrie and Dutchman's Creek hiking trail.
 - Trails The Uwharrie National Forest has over 50 miles of trails. From a one-mile loop trail along Densons Creek to the 21-mile Uwharrie National Recreation Trail, Uwharrie's maintained trails vary in length and mode.
- Morrow Mountain State Park Morrow Mountain State Park is located in Stanly County on the upper northwestern section of Lake Tillery outside of the Project Boundary. The park, which is the third oldest state park in North Carolina, was opened to the public in 1939. The park boundary encompasses approximately 4,742 acres (North Carolina Division of Parks and Recreation [NCDPR] 2002). Waters and woodlands associated with the park are home to a variety of plant and animal life. The park offers numerous opportunities for recreation

including boating, fishing, camping, and hiking. There are approximately 300,000 visitors who visit Morrow Mountain State Park annually (ASU 1999).

Water-related recreation facilities at the park include a one-lane boat ramp located at the end of the park road, two docks, parking for about 35 vehicles, and boat and canoe rentals. The park offers access to Lake Tillery from an accessible pier or the shore. Game fish in this portion of the lake include largemouth bass, stripped bass, white bass, crappie, perch, bluegill, and catfish.

Camping facilities range from primitive to full service. There are more than 100 campsites for tents and recreational vehicles (RVs). Drinking water and modern restrooms with showers are conveniently located, and a pump-out facility is available; however, there are no RV hookups. Primitive camping is offered in a wilderness setting, accessible via a 2-mile hike from the park office. Camping facilities range in price from \$9.00 to \$40.00 and camping is allowed by permit only.

There are more than 15 miles of trails that wind through Morrow Mountain State Park, including to the top of Morrow Mountain at 936 ft above mean sea level. Trails range from short, self-guided nature trails to more extensive hikes into the woodlands.

Other recreation facilities at the park include a swimming pool, equestrian trails, picnic areas, a natural history museum, and an outdoor amphitheater (Carolina Power & Light [CP&L] 2001). No hunting or trapping is permitted within the park boundaries.

Pee Dee National Wildlife Refuge - The Pee Dee National Wildlife Refuge, established in 1963, is located in Anson and Richmond counties bordering the Pee Dee River. The refuge is located between the Tillery and Blewett Falls Developments and encompasses 8,443 acres (DOI 1983). The original purpose of refuge was "...for use as an inviolate sanctuary, or for any other management purpose for migratory birds" (DOI 1983). Current refuge goals include resource protection, habitat restoration, resource management, environmental education and interpretation, and wildlife oriented recreation.

The Pee Dee National Wildlife Refuge offers a variety of public use opportunities. Activities at the Pee Dee National Wildlife refuge include wildlife viewing, hiking, and hunting. The refuge is open year-round from sunrise to sunset.

Birding and general wildlife viewing are the fastest growing activities on the refuge. A quarter-mile handicapped–accessible nature trail leads from the parking lot on the wildlife drive to an observation blind that overlooks both Sullivan's Pond and Sullivan's Impoundment. The refuge also supports a 3-mile nature trail and a 2½-mile interpreted wildlife drive. In addition to these trails, the refuge maintains a number of wood roads that access remote portions of the refuge.

Fishing is open from March 15 to October 15 on six of the ponds located within the refuge boundaries, Brown Creek, and the Pee Dee River. Largemouth bass, bluegill, crappie, and catfish are some popular species of interest. In addition to fishing, the refuge offers a hunting season from early September to late February. A free permit is required for hunting mourning

doves, squirrels, raccoon, quail, rabbit, and deer by archery. A special quota permit is required for youth deer hunts and hunting deer with firearms (GORP 2002).

■ Pee Dee River Canoe Trail - The Pee Dee River Canoe Trail is located within the southern leg of the larger Yadkin-Pee Dee River Canoe Trail, a 230-mile water trail designated by the NCDPR. The Pee Dee River Canoe Trail begins at the Lake Tillery boat access at Morrow Mountain State Park in Stanly County, and ends at the Blewett Falls Dam between Anson and Richmond counties. The journey is a 37-mile paddle with several side rivers that provide a number of interesting variations and trip options.

Progress Energy's Yadkin-Pee Dee River Project is located in Anson, Richmond, Montgomery, and Stanly counties. The towns and communities within the counties offer recreational facilities to the public that consist of passive and active opportunities. A survey of the recreational acreage as well as a facility inventory for all of the counties in North Carolina was performed as a part of North Carolina's SCORP. The results of those surveys are presented by county in Tables E7-1 through E7-4.

Table E7-1 Public recreational acreage and facility inventory of Anson County.

Type of Park Acreage or Outdoor	Total Number	County Reside	nt per Unit in 2000
Recreational Facility	Total Number	Anson	State Median
Dispersed Use Acres	7,514	3.4	25
State / Regional Park Acres	3	8,442.7	2,886
Local Park Acres	163	155	262
Baseball Fields	11	2,303	9,752
Softball Fields	1	25,328	15,234
Baseball / Softball Fields (multi-use)	4	6,332	8,604
Basketball Court	2	12,664	9,385
Picnic Shelters	5	5,066	7,828
Playgrounds	4	6,332	7,828
Football Fields	0	0	90,065
Soccer Fields	4	6,332	14,113
Football / Soccer Fields (multi-use)	0	0	227,435
Swimming Pool	1	25,328	68,024
Tennis Courts	2	12,664	4,483
Trails Miles (all types)	3.1	8,170	7,098
Volleyball Courts	1	25,328	55,858

Source: NC SCORP 2005.

Table E7-2 Public recreational acreage and facility inventory of Montgomery County.

Type of Park Acreage or Outdoor	Total Number	County Resident per Unit in 2000				
Recreational Facility	Total Number	Montgomery	State Median			
Dispersed Use Area	39,890	0.7	25			
State / Regional Park Acres	60	448.4	2,886			
Local Park Acres	82	328	262			
Baseball Fields	3	8,967	9,752			
Softball Fields	2	13,451	15,234			
Baseball / Softball Fields (multi-use)	8	3,363	8,604			
Basketball Court	4	6,726	9,385			
Picnic Shelters	3	8,967	7,828			
Playgrounds	5	5,380	7,828			
Football Fields	0	0	90,065			
Soccer Fields	0	0	14,113			
Football / Soccer Fields (multi-use)	1	26,902	227,435			
Swimming Pool	2	13,451	68,024			
Tennis Courts	12	2,242	4,483			
Trails Miles (all types)	61.5	437	7,098			
Volleyball Courts	3	8,967	55,858			

Source: NC SCORP 2005.

Table E7-3 Public recreational acreage and facility inventory of Richmond County.

Type of Park Acreage or Outdoor	Total Number -	County Resident per Unit in 2000				
Recreational Facility	Total Number –	Richmond State Median ,125 1.5 25 0 1.1 2,886 52 896 262 6 7,765 9,752 3 15,531 15,234 6 7,765 8,604 5 9,318 9,385 11 4,236 7,828 4 11,648 7,828 1 46,592 90,065 0 0 14,113				
Dispersed Use Acres	31,125	1.5	25			
State / Regional Park Acres	0	1.1	2,886			
Local Park Acres	52	896	262			
Baseball Fields	6	7,765	9,752			
Softball Fields	3	15,531	15,234			
Baseball / Softball Fields (multi-use)	6	7,765	8,604			
Basketball Court	5	9,318	9,385			
Picnic Shelters	11	4,236	7,828			
Playgrounds	4	11,648	7,828			
Football Fields	1	46,592	90,065			
Soccer Fields	0	0	14,113			
Football / Soccer Fields (multi-use)	0	0	227,435			
Swimming Pool	2	23,296	68,024			
Tennis Courts	8	5,824	4,483			
Trails Miles (all types)	21	2,219	7,098			
Volleyball Courts	1	46,592	55,858			

Source: NC SCORP 2005.

Table E7-4 Public recreational acreage and facility inventory of Stanly County.

Type of Park Acreage or Outdoor	Total Number	County Resident	per Unit in 2000
Recreational Facility	Total Number	Stanly	State Median
Dispersed Use Acres	0	0.0	25
State / Regional Park Acres	4695	12.4	2,886
Local Park Acres	201	290	262
Baseball Fields	0	0	9,752
Softball Fields	0	0	15,234
Baseball / Softball Fields (multi-use)	4	14,583	8,604
Basketball Court	5	11,666	9,385
Picnic Shelters	4	14,583	7,828
Playgrounds	30	1,944	7,828
Football Fields	7	8,333	90,065
Soccer Fields	13	4,487	14,113
Football / Soccer Fields (multi-use)	0	0	227,435
Swimming Pool	3	19,444	68,024
Tennis Courts	24	2,430	4,483
Trails Miles (all types)	18	3,241	7,098
Volleyball Courts	7	8,333	55,858

Source: NC SCORP 2005.

7.3 Existing Recreational Resources at the Project

The Project provides the opportunity for people to enjoy numerous and diverse forms of recreation. The Tillery and Blewett Falls developments differ in their physical characteristics, with Lake Tillery being a larger and deeper lake and Blewett Falls Lake being a much smaller and shallower lake. Combined, these two lakes provide a truly diverse and rich recreation opportunity.

Public access to the Project is provided at 13 access points consisting of both developed and informal access areas. Table E7-5 presents a listing of the public access points for each of the lakes and the reach of river between Lake Tillery and Blewett Falls Lake. Figures E7-1 and E7-2 shows the location of each of these access points. Survey and spot count data from the public access areas of the Project are included in the discussion below and all (i.e., private sites and sites not managed by Progress Energy) survey and spot count locations are included in the tables.

Table E7-5 Yadkin-Pee Dee River Project access areas.

Site	Site Location	Status	Reservoir
1	Blewett Tailwater Access Area	Public	Blewett Falls
2	Pee Dee Access Area	Public	Blewett Falls
3	Grassy Islands Access Area	Public	Blewett Falls
4	Blewett Falls Canoe Portage	Public	Blewett Falls
5	U.S. Highway 74 Site ¹	Public	Blewett Falls
6	Informal Tailwater Access Area	Public	Blewett Falls
7	Informal SR 1744 Site	Public	Blewett Falls
8	Highway 109	Public	Pee Dee River
9	Norwood Access Area	Public	Tillery
10	Stony Mountain Access	Public	Tillery
11	Swift Island Access	Public	Tillery
12	Lilly's Bridge Access	Public	Tillery
13	Informal SR 1740 & SR 1745	Public	Tillery
14	Morrow Mountain State Park	Public	Tillery
15	Tillery Canoe Portage	Public	Tillery
16	Twin Harbor	Private	Tillery
17	Holiday Shores	Private	Tillery
18	Woodrun	Private	Tillery
19	Carolina Forest	Private	Tillery
20	Informal Tailwater Access Area	Public	Tillery

1 U.S. Highway 74 site is located approximately 2.5 miles downstream of Blewett Falls Dam.

7.3.1 Tillery Development

There are a variety of opportunities for recreation on Lake Tillery. Formal recreation facilities exist in the form of marinas, public boat ramps, designated bank fishing facilities, private recreation facilities, and a nearby state park. Informal opportunities exist at unmarked sites throughout the Project for wildlife observation and shoreline fishing. Progress Energy leases all of its public access areas and recreation sites to the NCWRC. Figure E7-1 shows the recreational facilities located along Lake Tillery and downstream of Tillery Dam.

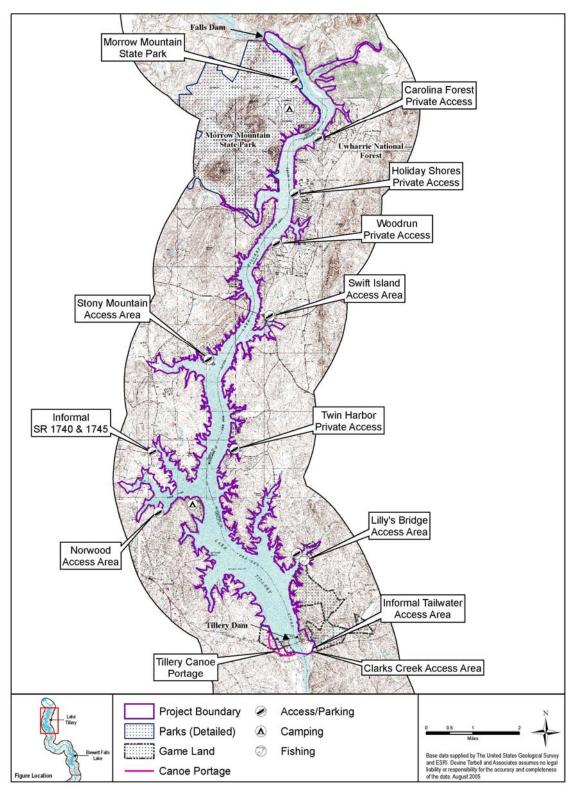


Figure E7-1 Lake Tillery access points.

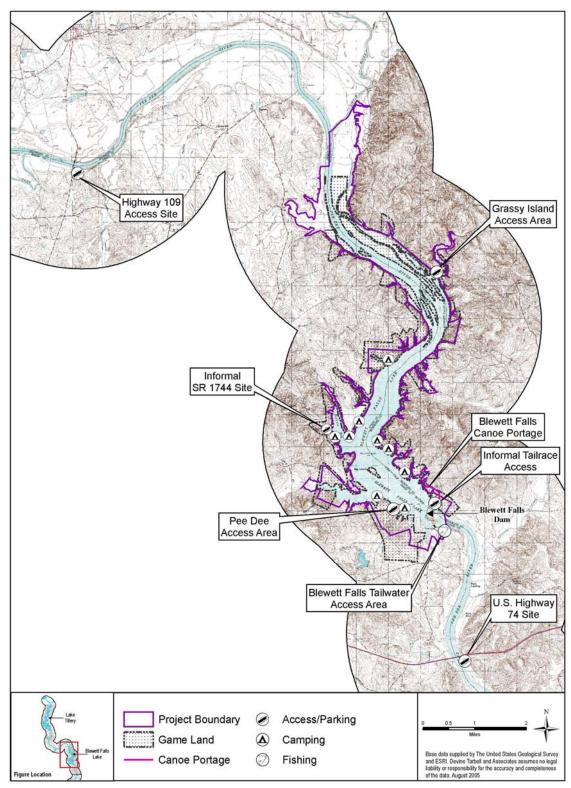


Figure E7-2 Blewett Falls access points.

- **Marinas** Four private marinas are located on Lake Tillery.
- Public Boat Ramps Lake Tillery has five areas where the public can access the lake. Progress Energy, working with the State of North Carolina, has developed the Lilly's Bridge boating access area, which includes two boat ramps, approximately one mile upstream of the Tillery Dam on the eastern shore. The Swift Island and Stony Mountain boating access areas offer large parking lots and paved boat ramps. The Norwood boating access area, approximately 1.5 miles upstream of the dam on the western shore, offers two paved ramps and a parking area. There is also one informal access on the west shoreline with a primitive one-lane boat ramp.



Swift Island public access boat launch site.

- Public Fishing Area (PFA) The Lilly's Bridge handicapped-accessible fishing pier is located directly across from the Lilly's Bridge Access Area. The area is maintained by the NCWRC.
- Private Recreation Facilities There are over 1,500 homes and seasonal cottages around Lake Tillery. Several private recreation facilities are located at major subdivisions on the lake. These private facilities are located at Woodrun, Holiday Shores, Sugar Loaf Shores, Carolina Forest, and Twin Harbor. Developers of these facilities and, subsequently, the homeowner associations, operate and maintain recreation facilities including boat ramps, dock facilities, swimming/beach areas, and boat storage.



Twin Harbor - private recreation facility.

■ Informal Recreation Areas - Informal unmarked recreation opportunities are scattered around the lake and frequently occur on Progress Energy land. The major areas consist of those properties leased to NCWRC in the Gamelands Program. The predominant activity at these sites is bank fishing (CP&L 2001).

A description of each of the public access areas at Lake Tillery is presented below.

- Norwood Access Area The Norwood Access Area is located just outside of the town of Norwood, North Carolina on the western shore of Lake Tillery. This site consists of two large parking areas, boat ramp, and dock. There is a 26,000-sq-ft gravel parking area provided adjacent to Lake Shore Drive and a 17,000-sq-ft area adjacent to the boat ramp that has 18 marked parking spaces indicated by concrete curbing. The gravel boat ramp at this site is approximately 34 ft wide. There is also a grassed area used for parking. There is a large, wooden dock adjacent to the boat ramp.
- Stony Mountain Access Area Stony Mountain Access Area is on the western shore of Lake Tillery, directly adjacent to Cook's Marina. There is a 41,500-sq-ft gravel parking area. The main drive into the access area is approximately 300 ft long and provides ample parking along its sides.
 - There is a single concrete boat ramp (two lanes) approximately 34 ft wide with a wooden dock separating the two lanes of the ramp. While there are no formal amenities at this site, its proximity to Cook's Marina provides restrooms and a marina store.
- **Swift Island Access** Swift Island, located on the east shore of the lake, is the largest of the public access sites to Lake Tillery. The main parking area measures approximately 390 ft by

- 370 ft. There are also two concrete handicap parking spaces that are sufficient for two vehicles with trailers. There are four concrete boat lanes at this site. There is a 28-ft-wide double ramp flanked by wooden docks on either side. On the outside of the wooden docks are two single lane concrete boat ramps each approximately 14 ft wide.
- Lilly's Bridge Access Area Lilly's Bridge Access Area consists of two access sites on either side of State Road 1110 (SR). The parking area to the west of SR 1110 consists of a 41,800-sq-ft gravel parking lot. There are two concrete handicap parking spaces sufficient for two vehicles with trailers. There is a double-lane boat ramp separated by a wooden dock and wooden docks on either side of the ramps. The boat ramp lanes are each approximately 14 ft wide. There is also a large grassy lot (approximately 20,000 sq ft) adjacent to the main gravel lot which may be used for parking during times of peak use.

The parking area to the east of SR 1110 includes a handicapped-accessible concrete walkway and wooden fishing platform. There are also two concrete handicap vehicle parking areas measuring 24 ft by 20 ft at this site. The parking area itself measures approximately 115 ft by 50 ft.

- Informal Access at Tillery Tailrace This site is located immediately downstream of Tillery Dam on the east side of the river. It provides river access via a narrow dirt/gravel pathway leading down the embankment from a small gravel parking area. The parking area (on the main road's shoulder) measures approximately 6,000 sq ft with 17 spaces marked by railroad ties. The spaces are primarily for cars or trucks only, a trailer would have to be parked parallel to the road. There is also an informal area (approximately 9,000 sq ft) near the boat ramp (dirt/gravel) used for parking as well. However, maneuverability may limit the number of trailers that can fit. The access road to the dam itself continues through this site to the dam via a gated access.
- Informal SR 1740 & SR 1745 (Cedar Creek Bay) This is a very small and informal site just off of SR 1740 (Indian Mound Road) outside of Norwood, North Carolina. This site consists of two dirt and grass parking areas on the eastern side of Indian Mountain Road, and one on the western side. The first parking area, just south of the intersection of SR 1745, is approximately 4,000 sq ft. The second parking area is approximately 3,000 sq ft. The parking area on the other side of Indian Mountain Road is approximately 4,000 sq ft. There are no formal recreation amenities and no motorized boat access. There is a small dirt clearing leading to the water, at the first parking area, that could be used for launching a small canoe or other paddleboat. All parking areas are restricted as to the number of trailers that can fit because of limited maneuverability due to their locations just off of the shoulder of Indian Mound Road.
- Morrow Mountain State Park There are two public access sites to Lake Tillery at Morrow Mountain State Park. The Lowder's Ferry Site provides a single, 24-ft-wide boat ramp with an adjacent asphalt parking lot measuring 170 ft by 50 ft. There is a 12-ft L-shaped pier extending from the concrete boat ramp at this site. There is a handicap walkway to the additional parking lot that includes access for fishing. There are several trash receptacles onsite. There are no additional amenities at this site.

The additional parking area at Morrow Mountain State Park is also paved and measures approximately 34,500 sq ft. There are 60 marked spaces (painted lines) for cars and 23 for vehicle and trailer parking in the same lot. There is a handicap walkway to the Lowder's Ferry Site. The boat ramp at this site is concrete and is approximately 36 ft wide with an adjacent turn-around area measuring approximately 4,000 sq ft. There is an L-shaped handicapped accessible fishing platform measuring approximately 120 ft by 11 ft and four picnic tables on site. A rental concession provides rentals for canoes and kayaks.

Private Access Locations

Twin Harbor - Twin Harbor, the southernmost private access area on the eastern shore of Lake Tillery, is a gated campground and RV facility for residents only. The facilities at this site include a double-wide concrete boat ramp with one ramp measuring 15 ft wide and the other measuring 11 ft wide divided by a wooden loading dock. There is a beach with a covered picnic table area and two gravel parking areas. The first, closest to the boat ramps, measures 120 ft by 70 ft and the second, closest to the beach, measures 120 ft by 80 ft. There is also a basketball court near the second parking area. There are no restroom facilities.

- Holiday Shores There are several recreation amenities provided at Holiday Shores, a nongated residential community on the eastern shore of Lake Tillery. An asphalt boat launch measuring approximately 26 ft wide is dissected by a 40-ft-long pier in the middle. There are four additional piers/boat tie-up docks to the right of the boat launch. There is also a deck and a covered picnic table area. A small gravel area adjacent to the boat piers measures approximately 60 ft by 65 ft and a bare grass area measures 45 ft by 65 ft. A clubhouse onsite provides restroom facilities and other amenities.
- Woodrun Woodrun is a gated residential community with private boat access for residents. There is a concrete ramp approximately 24 ft wide flanked on either side by two 53-ft-long wooden boat-loading docks. The gravel parking lot onsite measures approximately 85 ft by 135 ft on average.

There is a trash dumpster, maintenance shed, and boat storage facility adjacent to the parking area. On the other side of the boat ramp, there is a footbridge, 115 ft long, leading to several boat slips and a path that enters the woods along the shore. There is also a picnic area with tables.

Carolina Forest - Carolina Forest is also a gated residential community with private boat access and boat slips for residents of the community. The main parking area is posted as "Vehicle Parking Only" and measures 300 ft by 45 ft on average. This parking area is most likely used for access to the clubhouse that is adjacent to the boat launch area. There is one handicap parking spot next to the clubhouse.

There is a small 60-ft-by-110-ft gravel parking area closer to the boat launch ramp. The concrete boat ramp measures approximately 18 ft wide. To the right of the boat ramp are slips for approximately 30 boats and a fishing/boat pier. Just in front of the boat ramp is a pull-ahead area measuring approximately 40 ft long by 25 ft wide. There is a clubhouse adjacent to the access area with amenities, including restrooms, provided therein.

7.3.2 Blewett Falls Development

There are a variety of opportunities for recreation at the Blewett Falls Development located as shown on Figure E7-2 and described below.

- Public Boat Access A total of three developed public access areas are located at Blewett Falls Lake. Progress Energy has leased these three access areas (Grassy Islands Access Area, an informal access off SR 1744, and the Pee Dee Public Access Area) to the NCWRC. The Grassy Islands area offers boating access via a paved ramp with a small parking area. The Pee Dee offers boating access, two paved ramps, and a large parking area. It is maintained by NCWRC. The informal access off SR 1744 consists of an unpaved boat ramp.
- **Developed Fishing Area** Blewett Falls Development provides an accessible fishing pier for persons with disabilities on the downstream side of the powerhouse. This area was built in cooperation with the NCWRC. There are also tailwater bank fishing facilities located below the powerhouse area. A paved parking area and walkway allows for easy access to the site.
- Informal Recreation Areas Informal camping occurs along sections of the undeveloped reservoir shoreline. Most of the camping is concentrated along the shoreline just upstream of the Pee Dee Public Access Area. Just upstream of the dam a public shoreline access site provides informal swimming, bank fishing, and picnicking.
- Camping There is primitive camping allowed at nine shoreline locations, accessible only by boat. Progress Energy has worked with the NCWRC and community officials to develop a plan to allow for some overnight camping on Blewett Falls Lake. There are designated areas available that are accessible only by boat. Camping in areas accessible by vehicles is prohibited.

A detailed description of each access point located at Blewett Falls Lake or just upstream and downstream of the Project is presented below.

Blewett Tailwater Access Area - The Blewett Tailwater Access Area is located at the Blewett powerhouse. The site consists of a large, paved parking area with 48 marked parking spaces, seven of which are handicap accessible. In addition, there is a paved and wooden walkway providing access to the powerhouse tailrace and western shore of the Pee Dee River downstream of the powerhouse.

This site provides pedestrian access to tailrace fishing sites. There are buoys approximately 100 ft downstream of the powerhouse tailrace that restrict boat access upstream. Signage specifies the site as a Wildlife Public Fishing Area and that sport fish restoration efforts are being undertaken by the NCWRC on the Pee Dee River. This area includes a popular handicapped-accessible fishing platform attached to and along the downstream side of the powerhouse.

■ Pee Dee Access Area - The Pee Dee Access Area is a large boat access site with several boat launches and ample parking. Specifically, the Pee Dee Access Area consists of a 25,300-sq-ft gravel parking area made up of three separate areas, two of which are marked with wooden posts strung together with cable wire. There is a separate paved handicap accessible parking area and two boat ramps. The handicapped-accessible parking area is sufficient to provide parking for two trucks with trailers. Much of the perimeter of the site is specified as "no parking".

The upstream boat ramp is concrete and measures approximately 32 ft wide with two wooden docks. The downstream boat ramp is concrete and approximately 28 ft wide with no dock. There are no other amenities at this site.

Signage indicates this site is a Canoe Trail Access point for the Yadkin-Pee Dee River. In addition, sport fish restoration efforts are indicated, as are special black bass regulations. Signage also indicates that swimming, sunbathing, and fishing from boat docks at this site is strictly prohibited.

- Grassy Islands Access Area Grassy Islands is a very basic access site with one boat ramp (27 ft wide) and approximately 12,000 sq ft of open space for parking.
- **Blewett Falls Canoe Portage** This site is directly adjacent to Blewett Falls Dam on the east shoreline and serves as a canoe portage route for the reservoir. This site consists of a circular paved parking area approximately 5,500 sq ft in size. There is also limited informal parking along the dirt road that leads to the canoe portage trail.

There is a dirt trail that leads from the lake to the paved parking area. A chain link and barbwire fence prohibits access to the dam and lake with the exception of a small open gate on the canoe portage trail. There are no other formal recreation facilities at this site.

■ U.S. Highway 74 (Downstream of Dam) - This site located just downstream of U.S. Highway 74 is 2.5 miles downstream of Blewett Falls Dam. A dirt road off of the highway leads downhill to the shores of the Pee Dee River. The parking area is a gravel lot approximately 38,400 sq ft in size. There is a single-lane, concrete boat ramp with one dock. Although the boat ramp is 37 ft wide and actually consists of two lanes, there is signage blocking the left lane, creating a single boat ramp.

Signage indicates this site is a Canoe Trail Access point for the Yadkin-Pee Dee River. In addition, sportfish restoration efforts undertaken by the NCWRC are posted. Signage also indicates that swimming, sunbathing, and fishing from the boat dock at this site is strictly prohibited.

■ Informal Tailwater Access Area - The site located downstream of the Blewett Falls Dam on the eastern shore is informal with a rough, dirt road leading to an informal parking area on the banks of the river. There are two access ramps, one being very narrow and serving primarily as carry-in access, while the other, adjacent to the main parking area, is wide and includes a concrete section (12 ft wide) as well as a dirt section (24 ft wide). There are also foot trails leading directly to the water.

Parking is available at three gravel and dirt areas. There is a level 88-ft-by-111-ft gravel parking area adjacent to the river, a 48-ft-by-162-ft gravel parking area leading from the water to the dirt access road, and a 20-ft-by-85-ft grass and dirt parking area just off of the dirt access road.

Signage indicates this site is a "Canoe Trail Access" point for the Yadkin-Pee Dee River. In addition, sport fishing restoration efforts undertaken by the NCWRC are posted. Signage also indicates that camping, picnicking, and swimming is strictly prohibited at this access site.

- Informal Access SR 1744 Site This informal site consists of a rough, dirt road leading to this site which primarily consists of an unpaved boat ramp, trash receptacles, and fire rings. The recreation site measures approximately 30,000 sq ft; however, the prevalence of trees and other vegetation precludes parking for most of the area. The majority of parking appears to occur along either side of SR 1744 adjacent to the access road to this site. The presence of fire rings would indicate nighttime use or overnight camping activities.
- **Highway 109** This site, located upstream of the Blewett Falls Development, is relatively informal with an unpaved parking area. It includes a one-lane concrete boat ramp, a wooden boat dock with metal grate for up to three boats. The area has two rectangular open, grassy parking areas that can accommodate up to 57 cars/trucks or 25 boat trailers. There are no visibly marked spaces or handicap parking.

7.3.3 National Wild and Scenic Rivers System

The National Wild and Scenic Rivers Act of 1968 (16 USC 1271) states that Wild or Scenic rivers must "possess outstandingly remarkable scenic, cultural, or other similar values." Further, the Act requires that they "shall be preserved in a free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations." Five rivers in North Carolina have been designated into the national system: the New River (26.5 miles), the Horsepasture River (4.5 miles), the Lumber River (81 miles), all of the Chattooga River and Wilson Creek (23.3 miles) (NC SCORP 2005). The Pee Dee River is not designated as a Wild and Scenic River.

The Pee Dee River below Lake Tillery has been rated by the NPS as having an ORV designation for recreation. The river was designated due to its recreational opportunities that are, or have the potential to be, popular enough to attract visitors from throughout or beyond the region or are unique or rare within the region (NPS 2001).

7.3.4 National, State, and Regional Trails System

In 1973, the North Carolina General Assembly ratified the North Carolina Trails System. (G.S. 113A, Article 6). The act states:

...in order to provide for the ever increasing outdoor recreation needs of an expanded population and in order to promote public access to, travel within, and enjoyment and appreciation of the outdoor, natural remote areas of the state, trails should be established in natural, scenic areas of the state, and in and near urban areas.

...the purpose of this article is to provide the means for attaining these objectives by instituting a state system of scenic and recreation trails, coordinated with and complemented by existing and future local trail segments or systems, and by prescribing the methods by which, and standards according to which, components may be added to the State Trails System.

The State Trails System is composed of the following types of trails:

- State Recreation Trails Trails that provide for a variety of outdoor recreation uses in or near the urban areas of North Carolina. They may include trails for hiker travel, horseback riding, non-motorized bicycles, non-motorized watercraft, and two-wheel and four-wheel drive motorized vehicles (off-road vehicles).
- State Scenic Trails Trails that are longer in distance and located to provide maximum potential for the appreciation of natural areas and for the appreciation and enjoyment of significant scenic, historic, ecological, geologic or cultural areas through which such trails may pass.
- Connecting/Side Trails Trails that provide additional points of public access to State Recreation or State Scenic Trails or provide connections between these trails.

There are system trails adjacent to the Project at the Morrow Mountain State Park as well as nearby at the Uwharrie National Forest and the Pee Dee National Wildlife Refuge.

7.3.5 Wilderness Act

The Wilderness Act of 1964 (16 U.S. Code 1131) established a National Wilderness Preservation System. There are currently 12 designated wilderness areas in North Carolina, consisting of 111,342 acres. Eleven of these are administered by the USFS. They are: Ellicott Rock, Joyce Kilmer-Slickrock, and Southern Nantahala, located in the Nantahala National Forest; Linville Gorge, Middle Prong, and Shining Rock, located in the Pisgah National Forest; Birkhead Mountains, located in the Uwharrie National Forest; and Catfish Lake South, Pocosin, Pond Pine and Sheep Ridge, located in the Croatan National Forest. The USFWS administers the remaining wilderness area, Swanquarter. (NC SCORP 2005)

There are no designated wilderness areas within the Project Boundary. The Birkhead Mountains are located within the Uwharrie National Forest. The Birkhead Mountains Wilderness was established by the 1984 North Carolina Wilderness Act. The Wilderness includes 5,160 acres at the northern end of the Uwharrie Mountains, and is not affected by the Project. (Uwharrie National Forest North Carolina [UNCA] 2005)

7.4 Recreation Use Levels in the Project Area

Progress Energy conducted a recreation use assessment in 2004 and 2005 in accordance with a study plan developed in the Land Use and Recreation RWG. The purpose of the recreation use assessment was to document current use of recreation resources at the Project as well as to provide relevant information to assess likely future use at the Project. A copy of the study plan is located in Appendix A of this License Application. The specific areas of study included recreation use, carrying capacity and facility condition, public and private access, canoe portage adequacy, tailrace fishing success, and impacts from recreational use.

Recreational data was collected over a one-year period, from April 2004 to March 2005. Recreation use at the Project was documented through a combination of survey methods that addressed both visitor and resident use of Lake Tillery and Blewett Falls Lake. These included spot counts at public and private access points, mailed surveys to waterfront residents of the lakes, survey questionnaires at recreation facilities, and observations by Progress Energy of use immediately downstream of Project facilities. Progress Energy also conducted an inventory of public recreational facilities located at the Project and an assessment of the existing condition of each facility.

This section presents an overview of the results of the surveys and information gathering efforts. Detailed descriptions and assessments of the data collected are provided in Appendix E7-1.

Recreation Use

Lake Tillery and Blewett Falls Lake differ in a number of ways related to character and setting. Lake Tillery is a larger and more developed lake, with approximately 54 percent of the shoreline considered as having residential or commercial development. Blewett Falls Lake is considerably smaller and shallower than Lake Tillery with very little development. There are only three waterfront leases at the lake, and no commercial development. Both lakes have public access on both east and west shorelines.

According to the results of the visitor survey, the majority of those people visiting the lakes had visited the lakes previously with Lake Tillery receiving over two times the number of visitors as Blewett Falls. Visitor use estimates based on survey results are summarized in Tables E7-6 and E7-7. The overwhelming majority of visitors (97 percent) to the lakes were from North Carolina, with a small percentage from South Carolina and from other states (Figures E7-3 and E7-4). Visitors were primarily repeat visitors and day trippers with an average group size of three persons for both lakes. In 2004 to 2005, visitor's expenses were spent primarily in the areas of gas, food, and lodging. The highest visitation months at both lakes were April, May, June, and July.

At Lake Tillery, as would be expected, residents reported spending the highest number of days at the lake during the high season months of May through August. For the year, a majority of respondents (n=769; 38 percent) spent 22 to 31 days per month at Lake Tillery, followed by 28 percent spending 1 to 7 days (n=570) per month, and 14 percent of respondents overall spending 8 to 14 days per month at the lake.

Table E7-6 Lake Tillery estimated visitor use 2004 to 2005.

Month	Norwood Access Area	Stony Mountain Access	Swift Island Access	Lilly's Bridge Access	Informal SR 1740 & 1745	Morrow Mountain State Park	Tillery Canoe Portage	Twin Harbor*	Holiday Shores*	Woodrun*	Carolina Forest*	Informal Tailwater Access Area
Jan-05	130	227	156	149	11	227	0	0	21	84	42	42
Feb-05	162	29	297	166	14	92	13	8	0	29	21	89
Mar-05	334	145	652	242	28	358	5	48	75	37	84	129
Apr-04	638	1,237	2,419	311	145	1,309	100	507	178	293	298	209
May-04	616	390	3,120	441	51	1,242	236	658	165	297	558	286
Jun-04	509	912	2,241	651	62	1,191	115	792	188	439	407	279
Jul-04	802	718	2,634	642	182	1,259	52	1,219	224	379	562	226
Aug-04	419	1,017	1,097	288	32	979	54	343	91	292	255	199
Sep-04	337	209	713	225	43	555	61	193	31	113	81	132
Oct-04	416	170	1,485	388	55	925	44	139	37	109	127	182
Nov-04	234	115	654	327	34	1,121	28	63	38	21	66	267
Dec-04	137	43	635	165	0	127	20	59	8	11	21	136
Total	4,734	5,212	16,103	3,995	657	9,385	728	4,029	1,056	2,104	2,522	2,176

^{*}Private sites utilized by residents.

Table E7-7 Blewett Falls Lake estimated visitor use 2004 to 2005.

Month	Blewett Falls Tailwater Access Area	Pee Dee Access Area	Grassy Island Access Area	Blewett Falls Canoe Portage	U.S. Highway 74 Site	Informal Tailrace Access	Informal SR 1744 Site	Highway 109
Jan-05	34	49	57	10	53	11	0	17
Feb-05	49	51	20	8	25	11	29	0
Mar-05	148	253	85	19	67	142	21	21
Apr-04	390	1,847	292	218	144	323	610	65
May-04	467	1,993	266	197	158	353	664	58
Jun-04	475	1,034	96	164	82	162	262	88
Jul-04	359	1,639	178	100	59	113	525	141
Aug-04	329	993	106	109	90	98	96	32
Sep-04	174	290	42	108	40	116	50	29
Oct-04	245	339	69	30	63	111	50	14
Nov-04	123	134	133	45	148	12	16	5
Dec-04	48	113	67	15	51	37	0	39
Total	2,840	8,733	1,410	1,024	979	1,490	2,324	509

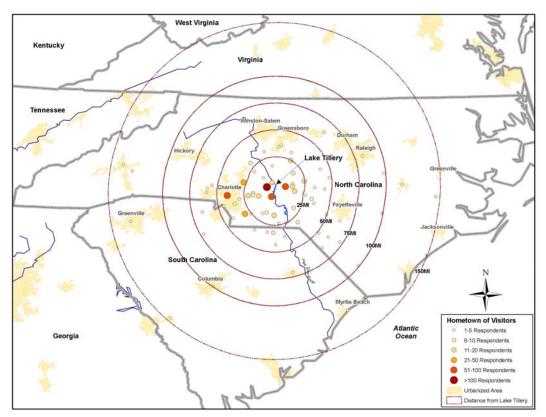


Figure E7-3 Concentration of Lake Tillery visitors by home towns.

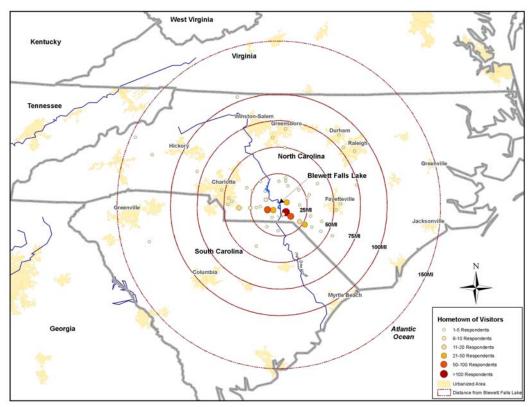


Figure E7-4 Concentration of Blewett Falls Lake visitors by home towns.

Due to the small number of responses by residents at Blewett Falls Lake (n=20), it was difficult to ascertain the length of time spent at the lake throughout the year. There was a slight lean, however, towards residents spending most of their time at the lake during the high season months, as was the case with the residents of Lake Tillery.

Recreation Activities

Three activities were prominent for visitors at both lakes as can be seen on Tables E7-8 and E7-9: boat fishing, bank fishing and motor boating. With respect to night time activities, in general, about half of visitors to Lake Tillery and Blewett Falls Lake participated in some form of night time activity.

Table E7-8 Recreational activities reported by visitors at Lake Tillery.¹

			iui uc		-			Activity	·						
Survey Location	Motor boating	Boat fishing	Bank fishing	Canoeing	River canoeing	Hiking	Swimming	Jet skiing	Water skiing	Camping	Picnicking	Sun bathing	Sailing	Hunting	Wildlife viewing
Norwood Access Area	45	95	18	0	1	3	28	21	23	6	11	9	2	7	4
Stony Mtn. Access	22	41	49	0	1	2	17	6	13	15	7	11	1	5	1
Swift Island Access	128	205	40	3	1	4	101	46	78	28	27	50	0	14	8
Lilly's Bridge Access	77	139	65	2	0	0	66	36	39	14	24	28	2	2	7
Informal SR 1740 & SR 1745	4	9	39	1	0	2	6	0	1	6	5	2	0	3	4
Morrow Mountain State Park	37	89	157	61	15	125	68	10	9	127	117	44	0	5	105
Tillery Canoe Portage	5	8	378	0	0	0	11	1	1	10	9	5	0	2	1
Woodrun	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Informal Tailwater Access Area	11	32	84	2	2	0	8	3	5	8	6	5	0	5	7
Total N	329	619	490	69	20	136	305	123	169	214	206	154	5	43	137
% of Population (N=1209)	27.2	51.2	40.5	5.7	1.7	11.2	25.2	10.2	14.0	17.7	17.0	12.7	0.4	3.6	11.3

April 2004 to March 2005.

Table E7-9 Recreational activities reported by visitors at Blewett Falls Lake.¹

							A	Activit	y						
Survey Location	Motor boating	Boat fishing	Bank fishing	Canoeing	River canoeing	Hiking	Swimming	Jet skiing	Water skiing	Camping	Picnicking	Sun bathing	Sailing	Hunting	Wildlife viewing
Blewett Tailwater Access Area	21	57	123	2	2	2	15	5	6	20	11	8	0	16	7
Pee Dee Access Area	72	144	31	0	0	1	42	22	41	54	20	11	0	11	7
Grassy Islands Access Area	21	54	24	3	5	5	13	1	5	24	6	7	0	18	9
Blewett Falls Canoe Portage	14	25	49	0	0	6	25	9	5	16	21	8	0	3	12
U.S. Highway 74 Site	8	32	26	2	5	5	6	4	4	7	5	2	0	8	6
Informal Tailrace Access	16	56	74	1	3	5	17	5	5	15	8	8	0	6	6
Informal SR 1744 Site	31	45	56	3	2	7	37	13	13	40	33	19	0	10	15
Highway 109	4	12	11	0	1	0	1	1	1	4	0	1	0	3	2
Total N	187	425	394	11	18	31	156	60	80	180	104	64	0	75	64
% of Population Sampled (N=711)	26.3	59.8	55.4	1.5	2.5	4.4	21.9	8.4	11.3	25.3	14.6	9.0	0.0	10.5	9.0

April 2004 to March 2005.

The most frequently mentioned activities participated in by residents of Lake Tillery were: 1) motor boating; 2) wildlife viewing; 3) swimming; 4) bank fishing, sunbathing; 5) jet skiing; 6) boat fishing; 7) waterskiing; and 8) picnicking. Overall, the most frequent activity of Lake Tillery residents was wildlife viewing, with respondents reporting an annual overall average of eight days per month engaged in this activity (Table E7-10). Motor boating was the next most frequent activity with respondents reporting an annual average of five days of motor boating per month.

Table E7-10 Lake Tillery resident recreation participation by month.

Survey Period	Motor boating	Boat Fishing	Bank Fishing	Lake Canoeing	River Canoeing	Hiking	Swimming	Jet Skiing	Water Skiing	Camping	Picnicking	Sunbathing	Sailing	Hunting	Wildlife viewing	Other activities
January	35	27	30	5	4	22	6	5	6	4	6	23	0	10	63	25
February	37	21	27	8	6	26	4	7	2	2	7	20	1	4	66	21
March	57	31	58	9	2	12	6	9	5	3	13	31	0	1	56	17
May	163	69	95	15	2	11	126	90	59	2	35	116	1	2	94	16
June	148	70	100	22	4	17	127	96	63	5	42	102	6	4	79	15
July	168	73	97	19	4	16	153	104	81	3	39	121	10	3	97	15
August	154	59	82	24	5	17	126	85	68	3	27	97	3	0	80	6
September	171	59	86	26	7	19	125	92	66	3	36	97	7	9	85	14
October	115	50	59	13	1	15	47	58	29	3	24	67	3	3	69	12
November	75	36	51	13	5	16	7	14	8	1	12	20	2	9	68	14
December	56	41	42	17	5	23	10	13	8	1	17	28	4	14	87	19
Total	1,179	536	727	171	45	194	737	573	395	30	258	722	37	59	844	174
Percent	54.2	24.6	33.4	7.9	2.1	8.9	33.9	26.3	18.2	1.4	11.9	33.2	1.7	2.7	38.8	7.9

The most frequently mentioned activities participated in by residents at Blewett Falls Lake were wildlife viewing, bank fishing, picnicking, boat fishing, hiking, motor boating, lake canoeing, and river canoeing. Overall, Blewett Falls Lake residents spent a majority of their time wildlife viewing as well, with respondents reporting an overall average of six days per month engaged in this activity (Table E7-11). Respondents spent an average of five days per month doing "other" activities, which included "living on the Lake and enjoying the Lake everyday." Bank fishing, picnicking, motor boating, and hiking were identified as the next most frequent activities with respondents reporting an average of two days per month participating in these activities.

Table E7-11 Blewett Falls Lake resident recreation participation by month.

Survey period	Motor boating	Boat Fishing	Bank Fishing	Lake Canoeing	River Canoeing	Hiking	Swimming	Jet Skiing	Water Skiing	Camping	Picnicking	Sunbathing	Wildlife Viewing	Other Activities
January	0	1	1	1	1	1	0	0	0	1	1	0	1	1
February	0	1	1	1	2	2	0	0	0	0	1	1	3	1
March	1	1	1	1	1	0	0	0	0	0	1	0	2	0
May	2	2	2	2	1	2	1	1	0	2	2	1	2	0
June	1	1	2	0	0	1	0	0	0	0	2	0	2	0
July	1	0	1	0	0	0	1	1	0	0	0	0	0	1
August	1	1	2	1	0	2	0	0	0	0	2	1	3	0
September	1	3	1	1	1	0	0	0	0	1	2	0	2	0
October	0	0	0	0	0	1	0	0	0	0	0	0	1	0
November	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	7	10	11	7	6	9	2	2	0	4	11	3	17	4
Percent	33.3	47.6	52.4	33.3	28.6	42.9	9.5	9.5	0.0	19.0	52.4	14.3	81.0	19.0

Conditions Interfering with Recreation Experiences

Overall, the majority of surveyed visitors to Lake Tillery (67 percent) did not experience conditions that interfered with their recreation experience. Unlike Lake Tillery, the majority of respondents at Blewett Falls Lake (60 percent) experienced some conditions that interfered with their recreation experience.

Respondents were asked to express their level of concern about potential issues including crowding, limited access, litter, and water levels.

■ Crowding

Crowding was not an issue for most people at either of the lakes. The majority of the visitors surveyed did not have a concern with crowded conditions at Lake Tillery, and of those that did express a level of concern, 62 percent expressed a low level of concern, 26 percent expressed a medium level of concern, and 12 percent expressed a high level of concern for crowded conditions.

When assessing level of concern for crowded conditions by access area at Lake Tillery, of those respondents with some level of concern (20 percent; n=242), approximately half of the respondents from Norwood Access (n=12) and half of the respondents from Swift Island Access (n=31) had a

medium to high level of concern for crowded conditions. However, based on the total number of respondents, there is little concern for crowding at these sites.

Also at Blewett Falls, the majority did not express concern about crowded conditions; and of those respondents that did address the question, 69 percent had a low level of concern for crowded conditions, followed by 23 percent responding with a medium level of concern and 8 percent having a high level of concern for Blewett Falls Lake.

When assessing level of concern for crowded conditions by access location for Blewett Falls Lake, of those respondents with some level of concern (27 percent; n=188), approximately 40 percent of respondents from the Informal SR 1744 Site (n=13) and one third of the respondents from Informal Tailrace Access (n=11) and Grassy Islands Access Areas (n=7) had a medium to high level of concern for crowded conditions. However, based on the total number of respondents, there seems to be little concern for crowding at these sites, with nearly 70 percent overall expressing a low level of concern.

■ Limited Access

There was also little concern from visitors and residents alike about access to both lakes. For those that expressed some level of concern regarding limited access, the level of concern was higher at Blewett Falls Lake than at Lake Tillery. Over half of the respondents expressed a medium to high level of concern over access at Blewett Falls Canoe Portage (67 percent), Informal SR 1744 Site (65 percent), Informal Tailrace Access (60 percent), and Blewett Tailwater Access Area (53 percent). Additionally, half of the respondents expressed medium to high concern at Grassy Islands Access Area, with 33 percent expressing medium to high concern at Pee Dee Access Area.

■ Trash / Litter Disposal

For Lake Tillery, the majority of respondents did not express a level of concern for improper disposal of litter or trash (80 percent). Of those that did express a level of concern, 40 percent had a low level of concern, followed by 35 percent having a high level of concern regarding improper disposal of trash. Visitor responses addressing some level of concern for improper disposal of trash and litter did vary by access location. Of those that addressed some level of concern regarding improper disposal of litter or trash (20 percent; n=289), the majority had medium to high level of concern. In general, the primary areas reported as areas of concern include the Norwood Access Area, Stony Mountain Access Area, Swift Island Access, Tillery Access and Tillery Canoe Portage Areas, and the Informal Tailwater Access Area.

For Blewett Falls Lake, the majority of respondents did not express concern for improper disposal of litter or trash (65 percent). However, with respect to specific access areas, of those that did respond to the level of concern regarding improper disposal of litter or trash (35 percent; n=250), the majority (63 percent) had a medium to high level of concern.

■ Water Levels

Eight-two percent of survey respondents from Lake Tillery did not express a level of concern for lake water levels. Of those that did, respondents were split between low and medium to high levels

of concern. The highest levels of concern for water levels came from respondents surveyed at Norwood, Swift Island, and the Informal Tailwater Access Area.

Visitors expressed more of a concern about lake levels at Blewett Falls Lake than at Lake Tillery. The typical daily operations associated with the Blewett Falls Development (see Exhibit B) can result in a change in water levels of up to 3 ft. About half of respondents from Blewett Falls Lake locations did not express a level of concern for lake water levels. However, of those that did, respondents were split between low to medium and high levels of concern. Under the current operations, there can be some difficulty associated with boat launching at the Grassy Islands access point under low-flow and low lake conditions, especially when combined with flashboard maintenance requiring the surface water of the lake to be lowered. Several respondents noted that they would like to be able to have additional information from Progress Energy on changing water levels.

Conflicts / Concerns

Recreationists at both lakes were asked to "identify any user conflicts [they had] today with other recreational users." In addition to conflicts with recreation users, respondents mentioned areas of concern with other conditions related to facilities. The primary areas of conflict at Tillery were focused on motor boaters (behavior, noise, and numbers), jet skiers (age of users, irresponsible behavior, and noise), and noise from unruly campers. Other areas included the environment and recreation management issues (time of park closures, provision of amenities such as bait, portajohns, trash cans). In general, visitors to Blewett Falls Lake identified primary user conflicts as unruly behavior of other recreationists, conflicts with motorized boaters, and conflicts with jet skis. In addition to conflicts, respondents raised other issues affecting their recreational experience. For a summary of the types of comments, see Tables 24 and 25 of Appendix E7-2.

7.5 Recreation Facilities

Lake Tillery Facilities Condition Assessment

There are seven access points to Lake Tillery for the public at the Project. These include Norwood, Stony Mountain, Swift Island, Lily's Bridge, Informal 1740 & 1745, Tillery Canoe Portage, and Morrow Mountain State park. This is also an informal access area just downstream of the dam (Informal Tailwater Access Area). Visitors were asked to comment on their opinions on the acceptability or adequacy of the condition of each facility (Table E7-12). Generally, the majority of visitors (greater than 90 percent) feel that the condition of boat ramps, parking lots, marinas, and signs are acceptable to very good. Presently, there are no toilet facilities at any of the public access areas, with the exception of Morrow Mountain State Park. As a result, several respondents (17 to 50 percent) from various access areas felt the toilet facilities were inadequate. Eighty-eight percent of respondents felt that fishing piers were acceptable to very good. Norwood, Stony Mountain, Informal SR 1740 & 1745, had some respondents who felt that the condition of the fishing piers was not adequate (27 to 43 percent). Signage was generally acceptable to very good, with three access areas (Informal SR 1740 & 1745, Tillery Canoe Portage) with responses of greater than 10 percent of the population responding that signage was not adequate.

Table E7-12 Lake Tillery visitor response to facility conditions.

Lake Tillery Survey Loc	Condition of boat ramps/docks	Condition of parking lot	Condition of marinas	Condition of campgrounds	Condition of toilets	Condition of fishing piers	Condition of signage	
Norwood Access Area	% A-VG	90.6	97	90.5	97	63	73	96
	% NAD	9.4	3	9.5	3	37	27	4
Stony Mountain Access	% A-VG	100	98.5	96	83	59	61	92
Stony Wountain Access	% NAD	0	1.5	4	17	41	39	8
Swift Island Access Area	% A-VG	97	97	91	89	63	92	90
Swift Island Access Alea	% NAD	3	3	9	11	37	8	10
L'I I Della Access	% A-VG	99.5	100	100	100	50	90	93
Lily's Bridge Access	% NAD	0.5	0	0	0	50	10	7
Informal CD 1740 % CD 1745	% A-VG	100	88	100	100	73	57	80
Informal SR 1740 & SR 1745	% NAD	0	12	0	0	27	43	20
Manual Manual's State Dell	% A-VG	96	98	95	98	93	96	98
Morrow Mountain State Park	% NAD	4	2	5	2	7	4	2
Till C D	% A-VG	93	100	90	100	83	83	82
Tillery Canoe Portage	% NAD	7	0	10	0	17	17	18
Informal Tailwater Access	% A-VG	80	93	91	96	74	91	93
Area	% NAD	20	7	9	4	26	9	7
	% A-VG	96	98	94	95	75	88	94
Total	% NAD	4	2	6	5	25	12	6

Note: Acceptable / Very Good=A-VG; Not Adequate=NAD.

Blewett Falls Facility Condition Assessment

There are five access sites for public use at Blewett Falls Lake. These are Blewett Falls, Pee Dee, Grassy Islands, Blewett Falls Canoe Portage, and Informal SR 1744 Access areas. There is also an

informal access area below the Blewett Falls Dam on the east shore of the river (Informal Tailrace Access). Generally, the majority of visitors to Blewett Falls Lake (89 percent or higher) felt that boat ramps and docks, parking lots, and signage were acceptable to very good. The exceptions appear to be respondents views on toilets and campgrounds (Table E7-13). Two access areas had greater than 10 percent of visitors responding that the condition of boat ramps/docks was not adequate, Blewett Falls Canoe Portage (17 percent) and the Informal Tailrace Access at 27 percent. The condition of parking lots were generally acceptable, with again, two access areas demonstrating greater than 10 percent of the respondents identifying parking lots as not adequate. Blewett Falls Canoe Portage (21 percent) and the Informal Tailrace Access (27 percent) had the largest number of respondents who considered parking lots not acceptable. Respondent's view of the condition of camping areas differed depending on each access site. The greatest number of respondents considering campgrounds not adequate occurred at the Blewett Falls Canoe Portage (52 percent), the Grassy Islands Access (50 percent), and the Informal SR 1744 access area. With respect to toilet facilities it appears that 50 percent or greater of those surveyed at Blewett Access Area, Pee Dee Access Area, Grassy Island, Blewett Falls Canoe Portage, and the Informal SR 1744 site felt that facilities were not adequate. There were some respondents at most of the access areas that felt fishing piers were not adequate. Signage was generally acceptable to very good for over 90 percent or more of the population surveyed at Blewett, Pee Dee, and Grassy Island. Approximately 15 to 20 percent of respondents felt signage was not adequate at Blewett Falls Canoe Portage, the Informal Tailrace Access, and the Informal SR 1744 Site.

Table E7-13 Blewett Falls Lake visitor response to facility conditions.

Blewett Falls Lake		Condition of boat ramps/docks	Condition of parking lot	Condition of campgrounds	Condition of toilets	Condition of fishing piers	Condition of signage	
Blewett Access Area	% A-VG	92	96	85	45	94	94	
	% NAD	8	4	15	55	6	6	
Pee Dee Access Area	% A-VG	90	100	71	47	64	91	
Tee Dee Access Alea	% NAD	10	0	29	53	36	9	
Cressy Island Assess Area	% A-VG	95	100	50	47	54	91	
Grassy Island Access Area	% NAD	5	0	50	53	46	9	
Dlawatt Falls Comes Douts as	% A-VG	83	79	48	50	55	86	
Blewett Falls Canoe Portage	% NAD	17	21	52	50	45	14	
H.C.H. 1 74	% A-VG	95	98	70	73	87	100	<u> </u>
U.S. Highway 74	% NAD	5	2	30	27	13	0	
T.C. A.T. A.	% A-VG	73	85	67	57	83	83	
Informal Tailrace Access	% NAD	27	15	33	43	17	17	
T. C 1 CD 1744 C':	% A-VG	90	86	52	32	62	83	
Informal SR 1744 Site	% NAD	10	14	48	68	38	17	
H. 1 100	% A-VG	100	100	75	83	100	100	
Highway 109	% NAD	0	0	25	17	0	0	
T	% A-VG	89	92	64	49	80	90	
Total	% NAD	11	8	36	51	20	10	

Note: Acceptable / Very Good=A-VG; Not Adequate=NAD.

7.6 Recreation Carrying Capacity

Carrying capacity is an "umbrella" concept used to address overuse or visitor-impact issues; it generally refers to the maximum use level that can occur in an area without degrading biophysical resources or recreation experiences. As with other resource management issues, estimating the carrying capacity for a particular resource area depends on management objectives and more specific standards that define impact acceptability, both requiring evaluative judgments (Shelby and Heberlein 1986).

With respect to the Recreation Study Plan, stakeholders identified two types of capacities to review in recreation settings at Lake Tillery and Blewett Falls Lake: (1) physical carrying capacity; and (2) social carrying capacity.

Physical carrying capacity refers to the space needed to engage in a particular recreation activity. Assessing physical capacities conceivably makes sense if there are spatial constraints. This capacity sets an upper bound by explaining how many can actually "fit" in an area.

There are different methods to determine a theoretical physical capacity at a lake. The method identified in the study plan was developed by the Bureau of Outdoor Recreation (BOR). Essentially, this method involves looking at the total surface area of the lake and applying a ratio based on user type. For Lake Tillery and Blewett Falls Lake, the estimate of nine acres per boat (unlimited power) was used as the index for maximum boats on the lake at one time. The result for Lake Tillery is 633 boats (based on 5,697 acres); Blewett Falls Lake estimates were calculated for full pond (2,866 acres) and 3 ft below full pond (2,306 acres) for an estimated 318 and 259 boats, respectively.

Social carrying capacity refers to use levels that impair or alter human experiences in recreation settings. Standards are required to define how much interaction, competition, conflict, or signs of use are acceptable for a given type of recreation experience. Impact indicators examined relative to Lake Tillery and Blewett Falls Lake include perceived crowding at access points and on the lake surface.

The importance of understanding social carrying capacity (i.e., people's perceptions of crowding at the lakes and facilities) is also discussed within the context of recreation use. In addition, a review of recent boating accidents on Lake Tillery was conducted.

In addition, to assist in understanding potential carrying capacity issues relative to use at the lakes, facility capacity was also examined.

Facility capacity refers to the number of people or groups that a developed site or facility is designed to handle. Facility capacity is generally associated with smaller-scale discrete site planning rather than the study of larger areas as in this study. Facility capacities, however, can interact with other capacity issues by attracting and concentrating use. In this context, this study examined parking facility capacities at access areas. Detailed information is provided in Appendix E7-1 and summarized in the discussions below.

7.6.1 Lake Tillery

Recreation Use Estimates

To understand the density of recreation use on the lake surface, the number of watercraft during a single day was estimated for Lake Tillery during April 2004 to March 2005. Recreation use on the lake surface was estimated using the maximum number of watercraft counted per day, which included an estimate for both visitors and residents combined. During peak season, the highest lake surface recreation use was on July 4 with an estimated single-day high of 845 watercraft; the lowest estimated use was estimated as a week day in September, with 484 watercraft (see Table 140, Appendix E7-1). Recreation use on the lake during shoulder season months (i.e., January to April and October to December) was between an estimated 102 (week day) to 227 (weekend) watercraft. The use levels are based on an estimated range of number of watercraft, with the potential for variance within a given day. Not surprisingly, the survey data depicts heavier use by visitors on weekends and holidays.

The level of use was not considered an issue with respect to respondent's perceived evaluation of crowding (see Section 7.6.3, Social Carrying Capacity).

The parking facility capacity was rarely reached for the majority of access areas. It appears that the periods of greatest usage were reached during April, June, and on the July 4 holiday. The facility carrying capacity for parking areas at the Norwood Access Area reached 100 percent facility capacity during one weekend day in April, two weekend days in June, and on the July 4 holiday. Stony Mountain Access Area parking reached 100 percent capacity during one April weekend day, and the Informal Access Area parking reached 100 percent capacity during one October weekday (see Table 136, Appendix E7-1). Therefore, the facility capacity for the parking facilities is rarely reached or exceeded 1 percent of the year for Norwood Access Area, and less than one percent for all other major access areas.

7.6.2 Blewett Falls

Recreation Use Estimates

Recreation use on the Blewett Falls Lake was estimated for week days, weekend days, and holidays. During peak season, the highest lake surface recreation use was on a weekend day in April, with an estimated single-day high of 80 watercraft; and, the lowest estimated use was estimated as a week day in February, with three watercraft (see Table 142, Appendix E7-1). Recreation use on the lake during shoulder season months (i.e., January to April and October to December) was between an estimated three (week day) to 80 (weekend) watercraft. During peak season, the estimated range of watercraft was between eight (week day) and 70 (week day). These estimates were based on spot counts of vehicles with boat trailers three times per day over the course of one year.

The level of use was not considered an issue with respect to respondent's perceived evaluation of crowding (see Section 7.6.3, Social Carrying Capacity).

The parking facility capacity levels at the Blewett Falls access areas were seldom reached or exceeded. Generally, the majority of the access areas experienced increased visitation during April fishing weekends, Memorial Day weekend in May, July weekdays, and the 4th of July holiday.

Specifically, the Grassy Islands Access Area parking exceeded capacity during two April weekend days, the Memorial Day weekend, and one July weekday. The Blewett Falls Canoe Portage Access also exceeded parking facility capacity during one weekday in April and on Memorial Day holiday. The Informal SR 1744 Access Area exceeded facility capacity during one April weekday and approached parking capacity during one weekend day in May; and parking facilities approached reaching capacity during the April and June weekends, and throughout July. The Pee Dee Access Area exceeded capacity on two April fishing weekends; during two weekend days in May; one weekend day in June; one weekend day in August; and twice in July (the 4th of July holiday and one weekend day). With these exceptions, access areas at Blewett Falls Lake rarely neared their current parking facility capacity levels (see Table 137 located in Appendix E7-1).

7.6.3 Social Carrying Capacity

To understand indicator variables related to important social conditions, visitors and residents were asked to express their level of concern for crowded conditions (low, medium, or high); and visitors were also asked their perception of 'how crowded' the lake was and "how crowded" was the access area to the lake. The results of the survey, discussed below, demonstrate that crowding is not an issue at either Lake Tillery or Blewett Falls Lake for visitors or residents.

Review of the survey results from both Lake Tillery and Blewett Falls Lake indicates that crowding was generally not perceived as an issue at either of the lakes or facilities by visitors. In addition, a review of the number of boating accidents in 2004 (two non-fatal for Lake Tillery and no reported accidents for Blewett Falls Lake) also supports the conclusion of a lack of crowding. Since 2001, there has been an overall decrease in accidents at Lake Tillery. This, combined with the lack of crowding perceived by visitors and residents, with the exception of five to six days a year, indicates that the facilities at the lakes are not utilized near to capacity.

On the other hand, there is some indication that visitors and residents alike are growing concerned about disruptive use of the lake by some user groups. These concerns include: (1) boaters not following safe boating practices, (2) jet skiers and boaters coming too close to shore causing disruptions for bank fisherman, (3) unruly behavior at some access sites during evening hours, and (4) security issues at parking areas during daytime and evening hours.

Crowding

Crowding was not perceived as an issue amongst visitors and residents alike. The majority of respondents surveyed did not perceive Lake Tillery as "very crowded". Most people (57 percent) felt that the lake was "not crowded", 37 percent indicated that the level of crowding was "acceptable", while 7 percent indicated that they thought the lake was "very crowded". The majority of respondents did not perceive access points as crowded as well. Of these respondents, 60 percent indicated the access points were "not crowded" at all, while 35 percent perceived the level of crowding as "acceptable", with 5 percent indicating that access points at Lake Tillery were "very crowded". Residents also did not rate crowding as a high concern. Forty-five percent of respondents did not express concern related to conditions that interfered with their recreation experience. Thirty-two percent of respondents expressed a low level of concern for crowding on the lake, while 17 percent expressed a medium level of concern, and 6 percent expressed a high level of concern.

The majority of respondents surveyed did not perceive Blewett Falls Lake as being "very crowded". Most people felt that the lake was either "not crowded" or at an "acceptable" level. Ninety percent of respondents addressed the question of visitor perceptions of crowding at Blewett Falls Lake and of these respondents, 65 percent indicated that they thought the lake was "not crowded", 31 percent indicated that the level of crowding was "acceptable", while 4 percent indicated that they thought the lake was "very crowded". Blewett Falls Lake resident respondents generally had no or low level of concern for crowded conditions on the lake. The majority of respondents (93 percent) answered the question regarding crowding at access points to Blewett Falls Lake. Of these respondents, 65 percent indicated the access points were "not crowded" at all, while 31 percent perceived the level of crowding as "acceptable", with 4 percent indicating that access at Blewett Falls Lake were "very crowded".

The results of both the visitor survey and the spot counts lead to the conclusion that both lakes currently do not have social carrying capacity problems. The visitor survey results related to crowding and other potential impacts of overuse support the conclusion that social carrying capacity at Lake Tillery and Blewett Falls Lake is at relatively low levels. This conclusion is based on the fact that perceived crowding is the most commonly used indicator of social capacity problems and relatively few people at either Lake Tillery or Blewett Falls Lake expressed much concern with levels of crowding on the lake or with crowded conditions generally.

While social carrying capacity does not seem to be an issue, based on the surveys of perceived crowding and the number of boating accidents on the lakes, the surveys do identify other concerns. It appears that the most serious concerns involve parking area security and management, conflicts caused by jet skiers and unruly boating behaviors, and trash/litter disposal. These concerns have little to do with boater use levels and more to do with behaviors of recreationists.

7.7 Navigation

At the request of North Carolina and South Carolina state agencies, Progress Energy performed a navigation feasibility analysis of the Pee Dee River as part of the overall recreational studies for this application. The issue to be addressed was whether proposed minimum flows would be adequate to permit recreational boating at identified critical cross sections of Pee Dee River reaches. North Carolina and South Carolina requested an assessment be made of whether South Carolina's navigational criteria would be satisfied with regard to one-way or two-way boat navigability¹.

A total of nine critical transects were identified for further evaluation during field visits in 2004 with SCDNR and NCDENR personnel. Next, an analysis was completed as part of the IFIM Flow Study to determine whether South Carolina's guidelines were being met at different flow levels in the nine critical river segments.

In the entire segment of the Yadkin and Pee Dee rivers evaluated by the navigation model, a total of four of the nine critical transects are predicted to limit navigation at the transect to one-way boat travel. In South Carolina, only one of the nine crucial sections might prove difficult to navigate under two-way criteria using a 14-ft jon boat as defined by the navigation model. This area is located in the Pee Dee River just upstream of the U.S. Highway 1/S.C. Highway 9 Bridge crossing.

Subsequent to reviewing the results of the Instream Flow Study, agency personnel indicated that there were no potential restrictions to boating navigability found within the Pee Dee River at the transects evaluated that would not allow the Project to operate as proposed by Progress Energy for the new license. It is important to recognize that the navigation model evaluated conditions at each transect. Therefore, while navigation of the river may be limited at a transect, it is not limited in the river upstream and downstream of that same transect.

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The State of North Carolina has not promulgated any regulations that define navigational criteria for boating activity. During consultation for this relicensing, representatives of North Carolina elected to use South Carolina criteria as a proxy to evaluate whether the project-affected recreational boating opportunities in North Carolina.

7.8 Needs Assessment Summary

The Recreation Needs Assessment provides an overall evaluation of recreation needs at the Project. This assessment is based on the integration of findings from the Inventory and Assessment of Recreation Facilities and the Recreation Visitor and Resident Surveys. The needs assessment involved a four-step process in which relevant information on recreation trends was evaluated, Project-area recreation opportunities were described, relevant Project area recreation issues and management plans were identified, and potential actions to address Project-related effects on recreation resources were identified. These steps are listed below.

- Step 1 Summary of regional recreation trends and relevant recreation plans.
- Step 2 Summary of Project-related recreation opportunities at recreation resource areas.
- Step 3 Evaluation of the major recreation issues for each recreation resource area.
- Step 4 Identification of potential measures to address Project-related issues.

The entire Needs Analysis is provided in Appendix E7-2 and is summarized below.

Based on Progress Energy's year-long recreation studies and research of recreation trends in the region, Progress Energy has identified a number of measures for both Lake Tillery and Blewett Falls Lake to improve the overall recreational use and experience of both residents and visitors:

- 1. Installation of sanitary facilities;
- 2. Lighting and increased security in parking areas;
- 3. Managed parking spaces to increase parking capacity;
- 4. Increased shoreline access and handicap access for fishing;
- 5. Hiking trails and trail information;
- 6. Wildlife viewing areas;
- 7. Educating boaters and jet skiers for enhanced awareness; and
- 8. Management of trash/litter.

The results of the recreation needs assessment identified certain improvements that primarily related to the behavior of specific groups of recreationists. Realistically, there is little that can be done by Progress Energy to modify or control the behavior. Detailed measures proposed by Progress Energy to improve the use and enjoyment of recreation resources at the Project are discussed in Section 7.12 below.

7.9 Comprehensive Plans

Under 18 CFR, Section 16.8, each license application must identify relevant state and federal comprehensive plans and explain how and why a project would or would not comply with the pertinent plans. FERC's list of comprehensive plans, dated March 2006, lists several management and land use plans for North Carolina (FERC 2006). The majority of these plans are not associated with, specific to, or in the same geographic region as the Yadkin-Pee Dee River Project. The following comprehensive plan was found to be relevant to the recreational resources within the Project area.

North Carolina Department of Environment and Natural Resources. 2003. Statewide Comprehensive Outdoor Recreation Plan, 2003-2008. Raleigh, North Carolina.

Pursuant to the federal Land and Water Conservation Fund Act of 1965, states are required to address statewide recreation in order to receive federal funds. The SCORP provides an updated framework for addressing problems, needs, and opportunities related to public outdoor recreation.

SCORP outlines specific actions to be taken by North Carolina to improve outdoor recreational resources for the period of 2002 to 2008. These actions are included in the five major goals identified in SCORP and listed below.

- 1) Improving outdoor recreational resources and services.
- 2) Conserving natural resources.
- 3) Addressing inadequate funding.
- 4) Creating effective partnerships.
- 5) Evaluating the status of the state parks system.

Progress Energy has worked closely with the North Carolina state agencies during the rigorous consultation that has occurred as a function of the Enhanced Traditional Licensing process. Based upon the issues identified by North Carolina as well as their proposals for cooperative efforts to improve the recreational facilities for the Project during this process, it appears that (where applicable for this effort) North Carolina is adhering to the stated goals of the SCORP.

7.10 Consultation Regarding Recreation Resources

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 public to comment on the ICD and to identify concerns and issues related to Project operations and effects.

Progress Energy also used the Joint Meeting to invite resource agencies and interested parties to further participate in the relicensing process by being involved with one or more RWGs. The purpose of the RWGs was to provide an opportunity for all stakeholders to work cooperatively on the review and discussion of existing data, identification of resource issues, identification of needed studies and their goals, and review of study plans. RWGs were established in 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:

A copy of meeting minutes and resulting agreed-upon study plans are provided in Appendix A. Participants in the RWG included state, federal, and local authorities as well as members of the public. Issues pertinent to the Project were identified and defined within the RWG. A determination was made by the RWG if existing information was sufficient to address the issue or if there were a need for additional information.

The Recreation and Land Use RWG identified specific recreation issues and requested that they be studied as part of the relicensing effort. Progress Energy prepared a draft study plan, reviewed it within the RWG in 2003, amended the study plan, and finalized it in January 2004. A copy of this study plan has been included in Appendix A of this License Application. Progress Energy implemented the study plan in 2004 and 2005. It was also decided within the RWG that discussions of boating navigation in the river reaches downstream of the dams would be handled within the Instream Flow Subgroup.

Between July 2004 and March 2006, a total of 11 Prefiling Comprehensive Agreement Meetings were held by Progress Energy and interested Stakeholders to discuss issues identified for the project, including recreation. The purpose of the Comprehensive Agreement Meetings was to craft an agreement for the new license term that met the needs of all parties involved in the effort. Unfortunately, no agreement was reached prior to filing this License Application.

Additional consultation resulted after Progress Energy submitted to FERC and stakeholders on November 17, 2005 the Draft License Application (DLA) for the Project. Comments received on the DLA are included in Appendix A of this application.

7.11 Summary of PM&E Measures Proposed by Resource Agencies and Other Parties

The NCWRC addressed recreation PM&E measures in their February 11, 2006 comment letter on the DLA. Their request for a handicapped-accessible public fishing area on the Stanley County side of Lake Tillery and for a boat ramp for use by law enforcement personnel on Lake Tillery have been included in Progress Energy's proposal. NCWRC's request for a survey to determine what elevation and boating access becomes unusable has been completed for Lake Tillery. Progress Energy is not proposing to complete this survey for Blewett Falls Lake. The USFWS, in their February 13, 2006 correspondence to Progress Energy, proposed enhancements and more access provided for tailwater access areas, and for facilities that are in compliance with Americans with Disabilities Act. Details of Progress Energy's response to these requests are included in Appendix A of this application.

7.12 Summary PM&E Measures Proposed by Progress Energy

Progress Energy has proposed a number of recreational enhancement measures for the Tillery and Blewett Falls developments based on results of its recreational studies, a review of Project safety considerations, and input from relicensing stakeholders. Overcrowding on the lakes and at public access areas were not perceived as an issue of concern by recreational users at either of the Project lakes. Issues identified by recreational users were more related to behavior of recreationists and discrete facility conditions then to recreation use levels. The physical facilities issues of most concern involved trash/litter disposal, lack of sanitary facilities, parking area security and parking management, and increased information on lake levels.

Visitors expressed a higher degree of concern regarding water levels at Blewett Falls Lake than at Lake Tillery. There can be difficulty with boat launching at the Grassy Islands boating access area at Blewett Falls Lake under low-flow levels when this is combined with Project maintenance conditions requiring the lake to be lowered. Progress Energy did perform in informal evaluation at Lake Tillery of the effect of a 5-ft drawdown on the ability to launch boats at the public boat launch sites. Based on attempts by Progress Energy personnel to launch a boat at each of the five separate public boat launch facilities on Lake Tillery, the impact of a lowered lake level appear to be minimal. The only site where Progress Energy personnel were not able to launch their boat was the Swift Island site. Progress Energy proposes to limit the fluctuation on Lake Tillery to not more than 1.5 ft on weekends and 3.0 ft on weekdays from April 15 to December 15. Based on the proposed fluctuation limits, Progress Energy does not believe that public boating access will be restricted at Lake Tillery.

There is some indication by users of growing concerns over disruptive behaviors of some recreationists on the lake. These concerns were primarily associated with some boaters not following safe boating practices and jet skiers and motor boaters coming too close to shore. Progress Energy discussed this issue with relicensing stakeholders. The legal enforcement of boating activity on Project lakes is under the authority of the NCWRC, Division of Enforcement. In North Carolina, there is no ability to enforce no wake zones or prohibit jet ski use of a lake. However, Progress Energy is proposing to co-fund a NCWRC enforcement facility/boat house on Lake Tillery that will serve as a central point for safe boating enforcement activities on the lake.

Additional needs identified by recreational users of Lake Tillery and Blewett Falls Lake included hiking trails and trail information, and wildlife viewing areas. Progress Energy evaluated their ability to provide these measures, and determined that the extent of lands controlled by Progress Energy within the Project Boundary did not provide Progress with the ability to develop a suitable network of hiking trails for use by the general public.

Progress Energy believes that the existing and proposed recreational facilities for the Project have the ability to serve as wildlife viewing areas. For example, expansive views of Lake Tillery are available at the canoe portage takeout as well as from the proposed Stony Mountain access point. At Blewett Falls Lake, expansive views are available at the Pee Dee access point on the western shoreline and at the canoe portage on the eastern side of the lake. The restricted development and resultant shoreline protection around Blewett Falls Lake will also maintain wildlife viewing opportunities throughout the license term. Progress Energy is also proposing to establish within five years of a new license a new access public access point on the eastern shoreline of Blewett Falls Lake. This access point will also enhance the opportunity for public wildlife viewing at the lake. In

addition to these wildlife viewing opportunities, Progress Energy proposes to provide wildlife viewing information as part of their proposal to upgrade the public information signage at the public access areas for the Project.

The proposed recreation measures identified below are based on the results of the recreation studies and consultation with stakeholders. These enhancements will provide the public with additional access and recreational opportunities at the Project during the next license term while improving overall Project safety. The specific enhancement measures are described for each development below. Detailed site plans for recreational enhancements, the proposed implementation dates, and the specific responsibilities of the involved parties will be filed with FERC after issuance of the new license. Progress Energy proposes to file its detailed plan and schedule for implementation within 180 days (six months) after license issuance by FERC. Progress Energy proposes to work with the NCWRC, North Carolina Division of Parks and Recreation, and local county officials during the design and implementation of these recreational enhancements.

7.12.1 Tillery Development

7.12.1.1 Lake Tillery Public Boating Access Areas

Progress Energy proposes to make improvements at four public boating access areas located on Lake Tillery - Lilly's Bridge, Swift Island, Norwood, and Stony Mountain (Figure E7-1). Generally, improvements to these areas include the addition of public vault-type sanitary facilities, trash receptacles, improved structured parking areas, additional public information signage, and updating the Project public information kiosks. Also to be provided is a new handicapped-accessible fish pier at the Stony Mountain access area. No improvements are being made at the Morrow Mountain State Park boating access area as that access is under the control of the North Carolina Department of Parks and Recreation (Figure E7-1). The Morrow Mountain boating facility already has sanitary facilities, good parking facilities, and public information signage. However, Progress Energy will work with the Morrow Mountain State Park personnel to update the Project public information kiosk. Specific improvements that will be made at each boating access area are described below.

■ Lilly's Bridge Access Area

Progress Energy will install new men's and women's public vault-type sanitary facilities, install new trash receptacles, update the public information signage including a new Project public information kiosk, and improve parking facilities for vehicles and boat trailers. The parking improvements will include necessary grading and gravel and providing clearly designated parking areas with additional posts and cables, concrete curbs, or other specified materials to enhance the efficient utilization of space for parking. Additional signs will be provided to help direct the public into the parking and boat launch/retrieve areas.

■ Swift Island Access Area

Progress Energy will provide men's and women's public vault-type sanitary facilities, install new trash receptacles, update the public information signage including a new Project information kiosk, and improve parking facilities for vehicles and boat trailers. The parking improvements will include necessary grading and gravel and providing clearly designated parking areas with additional posts and cables, concrete curbs, or other specified materials to enhance utilization of space for parking.

Additional signs will be provided to help direct the public into the parking and boat launch/retrieve areas.

Progress Energy will also install a picnic shelter with tables for public use at the Swift Island access area. Additional signage will provide information about the facility for public use. The picnic shelter and sanitary facilities will be ADA accessible. The parking facilities will have designated vehicle parking for the public using the picnic shelter, including appropriate ADA-designated parking adjacent to the shelter.

Stony Mountain Access Area

Progress Energy will provide men's and women's public vault-type sanitary facilities, install new trash receptacles, update the public information signage including a new Project public information kiosk, and improve parking facilities for vehicles and boat trailers. The parking improvements will include necessary grading and gravel and structuring the designated parking areas with additional posts and cables, concrete curbs, or other specified materials to enhance utilization of space for parking. Additional signs will be provided to help direct the public into the parking and boat launch/retrieve areas.

Progress Energy also proposes to install a handicapped-accessible public fishing pier on the Project lands located on the peninsula adjacent to and south of the existing boating access area (Figure E7-5). The pier will be built according to design specifications that meet requirements specified under the ADA. The fishing pier will be floating and adjustable to varying lake levels with operation of the Tillery Plant. In addition to the pier, there will be a formal, designated trail that leads to the fishing pier which will be constructed with the appropriate materials and grade suitable for ADA accessibility to the fishing pier. Progress Energy proposes to partner with the NCWRC in the specific design, siting, and construction of the public fishing pier and access trail on the Project lands. Progress Energy will provide up to \$25,000 to build the fishing pier and access trail and make improvements to the parking area. In turn, the NCWRC will provide the expertise in siting, design, and overall construction of the fishing pier and access trail. NCWRC will be responsible for the long-term maintenance of this facility. Progress Energy will also install a new Project public information kiosk near the public fishing pier and additional signage that directs the public to the trail access and pier location. The parking facilities will have designated vehicle parking for the public using the fishing pier, including the appropriate ADA-designated parking adjacent to the access trail.

Norwood Public Access Area

Progress Energy will provide men's and women's public vault-type sanitary facilities, install new trash receptacles, update the public information signage including a new Project information kiosk, and improve parking facilities for vehicles and boat trailers. The parking improvements will include any necessary grading and gravel and structuring the designated parking areas with additional post and cables, concrete curbs, or other materials to enhance utilization of space for parking. Additional signs will be provided to help direct the public into the parking and boat launch/retrieve areas.



Figure E7-5 Aerial photograph showing Progress Energy lands where the ADA fishing pier and NCWRC law enforcement boat house facility will be located adjacent to and south of the Stony Mountain Boating Access Area.

Note: The exact location of these facilities will be determined after consultation with the NCWRC. Site plans with the specific locations of each facility will be filed with FERC after this consultation. Refer to Figure E7-1 for location of this area on Lake Tillery.

Progress Energy will also install a picnic shelter with tables for public use at the Norwood access area. The picnic shelter and sanitary facilities will be ADA accessible. The parking facilities will have designated vehicle parking for the public using the picnic shelter, including the appropriate ADA designated parking adjacent to the shelter. Additional signage will provide information about the facility for public use.

7.12.1.2 Tillery Plant Tailwaters Public Boating Access Area

Progress Energy proposes to close the existing informal public boating access area located in the tailrace immediately below the Tillery Plant due to safety concerns. Progress Energy, in consultation and partnership with the NCWRC, will develop and construct a new public boating access area located at the mouth of Clarks Creek, approximately one-half mile below the

powerhouse and one-quarter mile from the current access area. This proposed access area will provide improved launching and retrieving of boats and greater bank fishing. Figure E7-6 shows a photograph of the proposed location which will be adjacent to N.C. Highway 731 Bridge. Public access to the Clarks Creek boating access area will be from the current power plant access road (i.e., Tillery Dam Road) located off State Road 1103 and N.C. Highway 731. The boating access area will have a gravel parking lot with designated ADA parking spaces. Progress Energy will provide the land for the proposed Clarks Creek boating access area and funding for construction of the access area. NCWRC will be responsible for the long-term maintenance of this access area.



Figure E7-6 Photograph of the proposed Clarks Creek boating access area downstream of the Tillery Hydroelectric Plant. Actual siting of the boating access area, including the launch/retrieval ramp, will be developed through consultation with the NCWRC. Refer to Figure E7-1 for location of this area on the Pee Dee River below the Tillery Plant.

Progress Energy will provide trash receptacles at the proposed Clarks Creek boating access area. Additionally, Progress Energy will install the appropriate signage directing the public to the boating access area and also install a new Project public information kiosk at the access site.

7.12.1.3 Additional Recreational Enhancements at the Tillery Development

■ NCWRC Enforcement Boat House and Access

Progress Energy proposes to work with the NCWRC in co-funding with matching dollars the construction of a boat house and access ramp for use by enforcement personnel on Lake Tillery. This facility will permit the NCWRC to respond more effectively to boating emergencies on the lake and serve as a central point for safe boating enforcement activities on the lake. The proposed location is on the main lake side of the Project lands on the peninsula located adjacent to and south

of the Stony Mountain boating access area (Figures E7-1 and E7-5). There is an existing trailer located at this site that the NCWRC currently uses for boating enforcement activities. Progress Energy will work with the NCWRC on the siting and construction of this facility. NCWRC will be responsible for the long-term maintenance of this facility.

■ Informal Access Area at SR 1740 and 1745 (Steel Bridge Area)

Progress Energy will consult with the NCWRC on effective means to discourage public use of the informal public access area at SR 1740 and 1745, locally known as the Steel Bridge Area (see Figure E7-1). This area is used for public bank fishing and an informal area to launch boats. The methods to discourage use of the area may include, but are not limited to, cable and posting to prevent parking and/or launching of boats; signage that prohibits fishing and boating activities; and enforcement by either the NCWRC or local county enforcement. The development of the public fishing pier at the nearby Stony Mountain boating access area will provide additional public fishing opportunities to compensate for the loss of fishing at the Steel Bridge area.

7.12.2 Blewett Falls Development

7.12.2.1 Blewett Falls Public Boating Access Areas

Progress Energy proposes a number of improvements to the two existing public boating access areas on Blewett Falls Lake - the Pee Dee and Mountain Creek (Grassy Islands) access areas (Figure E7-2). Specific measures to be implemented at each boating access area are described below.

■ Pee Dee Access Area

Progress Energy will provide men's and women's vault-type public sanitary facilities, install trash receptacles, update the public information signage including a new Project information kiosk, and improve parking facilities for vehicles and boat trailers. The parking improvements will include necessary grading and gravel and clearly designate parking areas with additional post and cables, concrete curbs, or other specified materials to enhance utilization of space for parking. Additional signs will be provided to help direct the public into the parking and boat launch/retrieve areas.

Progress Energy will also install a picnic shelter with tables for public use at the Pee Dee access area. Additional signage will provide information about the facility for public use. The picnic shelter and sanitary facilities will be ADA accessible. The parking facilities will have designated vehicle parking for the public using the picnic shelter, including the appropriate ADA designated parking adjacent to the shelter.

Progress Energy will also extend the boat launch ramps to permit effective boating accessibility over the range of lake fluctuation levels proposed for the new license term. These improvements may include extending the existing ramps or limited dredging at the end of the launch ramps.

■ Grassy Islands Access Area (Mountain Creek Access Area)

Progress Energy will provide trash receptacles, update the public information signage including a new Project information kiosk, and improve parking facilities for vehicles and boat trailers. The

parking improvements will include necessary grading and gravel and structuring the designated parking areas with additional post and cables, concrete curbs or other specified materials to enhance utilization of space for parking. Additional signs will be provided to help direct the public into the parking and boat launch/retrieve areas.

Progress Energy will also work with the NCWRC to improve the boat ramps to permit effective boating accessibility over the range of lake levels proposed for the new license term. These improvements may include extending the existing ramps or limited dredging at the end of the ramps.

7.12.2.2 Other Recreational Enhancements at the Blewett Falls Development

■ Richmond County Public Boating Access

Progress Energy proposes to construct a new public boating access area on the Richmond County (east) side of Blewett Falls Lake within five years of issuance of the new license. The new boating access area will be located in the lower lake area opposite the existing Pee Dee access area located on the Anson County (west) side of the lake (Figure E7-2). Progress Energy will work with local county officials and interested landowners to site the new public boating access area. Access across a number of private parcels will have to be obtained. Progress Energy will also consult with the NCWRC and Richmond County on design and construction of the boating access area. NCWRC would maintain the site.

The new boating access area will be provided with a picnic shelter with tables for public use, men's and women's vault-type sanitary facilities and trash receptacles, structured parking, and a Project public information kiosk. The new boating access area will have ADA-designated parking area adjacent to the launch ramps.

■ Blewett Falls Canoe Portage Facility

Progress Energy proposes to upgrade the canoe portage facility located on the east shoreline of Blewett Falls Dam (Figure E7-2). Progress Energy will consult with the North Carolina Division of Parks and Recreation about upgrading this portage facility to applicable state recreational standards. Any identified upgrades to the portage site will be made by Progress Energy.

■ USGS Rockingham Gage Stream Flow Data for Blewett Falls Tailwaters

Progress Energy will provide an electronic link on its external Company internet web site that will allow the public to access real-time Pee Dee River stream flow data at the USGS Rockingham gage station (USGS Gage No. 02129000).

These measures, in combination, will substantially enhance the current use and enjoyment of the Project's recreation resources.

7.13 References

- Appalachian State University. 1999. North Carolina's Central Park: Assessing Tourism and Outdoor Recreation in the Uwharrie Lakes Region. Appalachian State University, September 1999.
- Carolina Power & Light. 2001. CP&L A Progress Energy Company. Shoreline Management Plan for the Tillery Hydroelectric Project (FERC No. 2206). Submitted by Carolina Power & Light A Progress Energy Company, December 30, 2001. Prepared by The Louis Berger Group, Inc.
- Gorp. 2002. Destinations: Pee Dee National Wildlife Refuge. [Online] URL: http://www.gorp.com/gorp/resources/us_nwr/nc_peede.htm. (Accessed May 24, 2002.)
- National Park Services. 2001. National Park Service Nationwide Rivers Inventory. [Online] URL: http://www.ncrc.nps.gov/programs/rtca/nri/STATES/nc.html. (Accessed June 17, 2002.)
- North Carolina Division of Parks and Recreation. 2005. North Carolina Statewide Comprehensive Outdoor Recreation Plan. North Carolina Outdoor Recreation Plan 2003-2008. [Online] URL: http://ils.unc.edu/parkproject/resource/scorp.html. (Accessed May 2005.)
- Progress Energy. 2003. Initial Consultation Document. Yadkin-Pee Dee River Project FERC No. 2006. Submitted by Progress Energy, Raleigh, North Carolina, February 2003.
- —. 2005. Draft Application for License. Prepared for Progress Energy. November 2005.
- Uwharrie National Forest North Carolina. 2005. The Birkhead Mountains Wilderness. [Online] URL: www.cs.unca.edu/nfsnc/ recreation/uwharrie/birkhead_mountain_wilderness.htm. (Accessed October 4, 2005.)
- U.S. Department of the Interior. 1983. Mammals, Amphibians and Reptiles of the Pee Dee National Wildlife Refuge. RF-42550-5. May 1983.

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APPENDIX E7-1 RECREATION USE LEVELS IN THE PROJECT AREA

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APPENDIX E7-1 RECREATION USE LEVELS IN THE PROJECT AREA AND

RECREATION CARRYING CAPACITY

1.1 Recreation Use Levels

1.1.1 Lake Tillery and Blewett Falls Lake Recreational Use Assessment

The purpose of the recreation use assessment was to document current use of recreation resources at the Project as well as to estimate future use at the Project. This study was developed to address those issues identified in the Land Use and Recreation Resource Working Group; specifically Issue No. - 4 Recreation Use Study.

The specific areas that the study focused on include, carrying capacity and facility condition, public and private access, canoe portage adequacy, tailrace fishing success, and impacts from recreational use. Impacts to recreation due to Project operations were also included as part of this assessment. Survey and spot count data from the access areas that apply to the Progress Energy Project specifically are discussed in the text and all (i.e., private sites and those not managed by Progress Energy) survey and spot count data are included in the tables.

Current use of the Project was documented through a combination of survey methods that addressed visitors and residents of Tillery and Blewett Falls lakes. These included spot counts, questionnaires at recreation facilities, and mailed questionnaires to residents of the lakes.

Spot Counts

Spot counts were conducted at the public and private access recreation areas listed below:

■ Lake Tillery

- Norwood Access Area TW
- Stony Mountain Access
- Swift Island Access
- Lilly's Bridge Access
- Tillery Access (Informal SR 1740 & SR 1745)
- Morrow Mountain State Park
- Tillery Canoe Portage
- Informal Access Area-Tailrace
- Twin Harbor (Private)
- Holiday Shores (Private)
- Woodrun (Private)
- Carolina Forest (Private)

■ Blewett Falls Lake

- Blewett Tailwater Access Area
- Pee Dee Access Area
- Grassy Islands Access Area
- Blewett Falls Canoe Portage

- U.S. Highway 74 Site
- Informal Access-TW
- Informal SR 1744 Site
- Highway 109

The spot counts were conducted for a 12-month period, beginning in April 2004 and concluding in March 2005. Sampling days were randomly selected by a stratified random sampling method and included the following:

- a. Three weekend days and three weekdays a month during April, May, June, July, August, September, and October (including Memorial Day, 4th of July, and Labor Day).
- b. Two weekend days and two weekdays a month during November, December, January, February, and March.

Each site was visited three times per day (morning, afternoon, and evening) on the same sample date. The sample day was defined from sunup to sundown. The order of the sites visited was randomly determined for each sample date. At each location, information was recorded to document the number of vehicles, boat trailers, anglers, swimmers, and other recreational users.

Canoe Portage Survey

In addition to conducting spot counts at the canoe portages located at Tillery and Blewett Falls Dams, a survey box with a survey questionnaire for canoeists was installed at a visible location near the take-out point. Progress Energy retrieved the information from the collection boxes and tabulated usage.

Visitor Use Survey

Progress Energy conducted an on-site Visitor Use Survey at Tillery and Blewett Falls Lakes, which provided information on user characteristics, recreational activities, concerns, and overall recreational experiences. The survey was conducted at the public recreation areas from users present at the time of the visit for each spot count.

Resident and Private Facility Use Survey

A recreation use survey was mailed to waterfront residents on Lake Tillery and Blewett Falls Lake. A subset of the waterfront residents were randomly selected each month at Lake Tillery and residents at Blewett Falls Lake. The survey provided information on user characteristics, recreational activities, concerns, and overall recreational experiences.

Tailrace Fishing Survey

A survey of fishermen utilizing the public tailrace fishing areas located just downstream of Tillery and Blewett Falls dams was conducted. A survey box containing survey questionnaires was installed at a visible location near the tailrace fishing areas. Progress Energy employees retrieved the information from the collection boxes and tabulated use of the fishing areas and documented recreational fishing success.

Facility Inventory and Condition Assessment

Progress Energy conducted an inventory of public recreational facilities located on the Project. In addition to the inventory, an assessment of existing conditions at each facility was also conducted. Information describing the condition of each facility was recorded.

1.1.2 Visitor Use Survey Results

Visitor use estimates for Lake Tillery and Blewett Falls Lake were calculated based on the results from the Visitor Use Spot Count Survey which began in April of 2004 and ended in March of 2005. Sites included both public and private access areas, and were surveyed during weekdays, weekends, and holidays.

1.1.2.1 Estimated Visitor Use at Lake Tillery and Blewett Falls Lake

To estimate the total number of visitors at each lake, the following steps and assumptions were utilized:

- 1) First, based on direct spot count observations from April 2004 March 2005, the minimum and maximum number of vehicles for a particular weekday, weekend day, and holiday day were calculated (per site, per month);
- 2) Next, based on the minimum and maximum per day vehicle counts, the average number of vehicles by type of day (i.e., weekend day, weekday and holiday) was calculated per month;
- 3) The average group size per access area was calculated based on survey forms completed by participants; (Note: For private access sites, the average total group size estimate was used. On-site surveys were not conducted for residents; residents were drawn at random to complete resident surveys monthly).
- 4) The maximum number of vehicles per type of day was used as a multiplier for the average group size taken per access area by type of day;
- These calculations resulted in an estimated number of visitors by access point and by type of day (i.e., weekend, weekday, or holiday); and, the estimated number of visitors per site by type of day was then multiplied by the number of weekdays, weekend days and holidays per month, for total monthly and annual estimates by lake.

Lake Tillery

Table 1 (all Appendix E7-1 tables are located at the end of Appendix E7-1) depicts estimated use counts for Lake Tillery. The highest visitation months are estimated as July (8,899 visitors), May (8,060 visitors), June (7,786 visitors), and April (7,644 visitors). On average, August (5,066 visitors) and October (4,077 visitors) were slightly lower than peak months, with overall estimated visitation decreasing by more than half during the rest of the year: November (2,968 visitors); September (2,693 visitors); March (2,137 visitors); December (1,362 visitors); January (1,089 visitors); and February (920 visitors).

Figure 1 depicts the estimated total vehicle weekday versus weekend spot count per month, showing the minimum, maximum, and average number of vehicles per access site for Lake Tillery. Vehicle counts formed the basis for estimating the number of visitors per access site over 12 months.

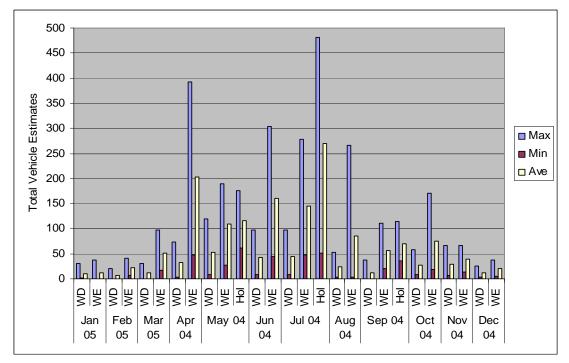


Figure 1 Lake Tillery - monthly visitor use estimate.

Blewett Falls Lake

Table 2 depicts estimated use counts for Blewett Falls Lake. The highest visitation months are estimated as May (4,156 visitors), April (3,889 visitors), July (3,114 visitors), and June (2,363 visitors). On average, August (1,853 visitors) was slightly lower than peak months, with overall estimated visitation decreasing by more than half during the rest of the year: October (921 visitors); September (849 visitors); March (756 visitors); November (616 visitors); December (370 visitors); January (231 visitors); and February (193 visitors).

Figure 2 depicts the estimated total vehicle weekday versus weekend spot count per month, showing the minimum, maximum, and average number of vehicles per access site for Blewett Falls Lake. Vehicle counts formed the basis for estimating the number of visitors per access site over 12 months.

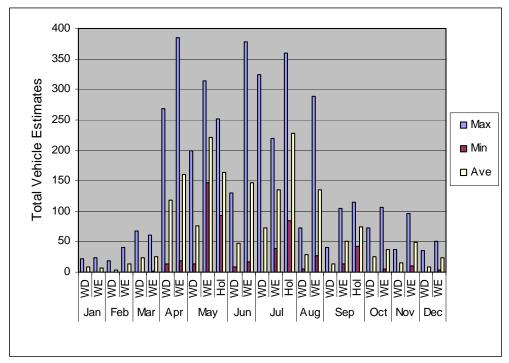


Figure 2 Blewett Falls - monthly visitor use estimate.

1.1.2.2 Socio-demographics

Lake Tillery

The visitor use survey addressed socio-demographic questions including: gender, place of residence, and age (see Table 3). The sample was dominated by male participants, consisting of 970 (84 percent) males, 179 (16 percent) females. Of those access locations identified by respondents, males also dominated each access location by more than 78 percent or higher (Table 4). The mean age of respondents was 43, with a wide distribution ranging from 12 to 84 years of age. Approximately 70 percent of the sample was 50 years of age or younger. (Note: The age related data are presented in categories to more efficiently represent the characteristics of the respondents). The majority (97 percent) of respondents were from North Carolina, with a small percentage (2 percent) from South Carolina, and less than 2 percent from out of state (Figure 3).

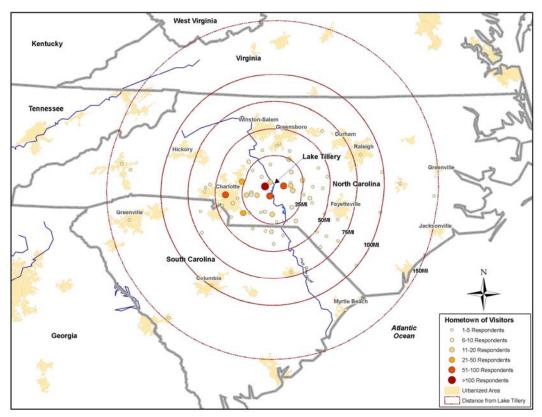


Figure 3 Lake Tillery - distribution of visitors' home towns.

Blewett Falls Lake

Responses from socio-demographic questions for Blewett Falls Lake are outlined in Table 5. Similar to Lake Tillery, the sample from Blewett Falls Lake was dominated by male participants, consisting of 568 (85 percent) males and 99 (15 percent) females. Of those access locations identified by respondents, males dominated each access location by 74 percent or higher (Table 6). The mean age of respondents was 44, with a distribution of 14 to 91 years of age. Approximately 66 percent of the sample was 50 years of age or younger. As with Lake Tillery, the majority (97 percent) of respondents at Blewett Falls Lake were from North Carolina, with 2 percent from South Carolina, and less than 2 percent from out of state (Figure 4).

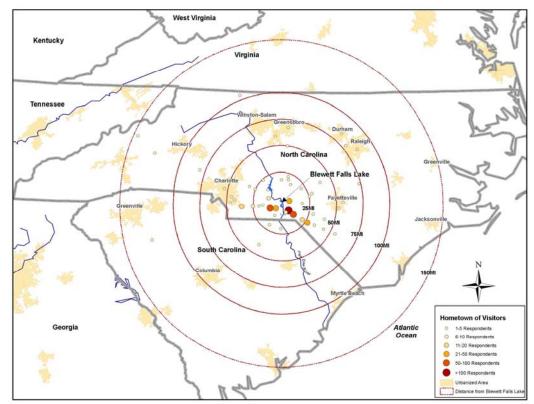


Figure 4 Blewett Falls Lake - distribution of visitors' home towns.

1.1.2.3 Group Characteristics

Respondents were asked how many people were in the group, including the number of adults and the number of children. In general, visitors to both lakes travel in relatively small groups, with few children.

Lake Tillery

The average group size of respondents (n=1179) at Lake Tillery was 3 persons per group (Table 7). Groups had a wide distribution from 1-110, the latter reported one time at the Stony Mountain Access area. Of the groups represented at Lake Tillery, the average number of children per group was less than 1 (Table 8). The number of children reported per group was distributed between a minimum of 0 and maximum of 30.

Blewett Falls Lake

The average group size of respondents (n=688) at Blewett Falls Lake was also three persons per group (Table 9). Groups had a size distribution from 1 to 41, the latter reported one time at the Informal SR 1744 Site. Of the groups represented at Blewett Falls Lake, the average number of children per group was less than one (Table 10). The number of children reported per group was distributed between a minimum of 0 and maximum of 12.

1.1.2.4 Visitation Frequency

To understand visitor behavior, respondents were asked questions concerning their visitation patterns to the lakes. Respondents were asked to estimate how many times per year they visited the lake, how many hours they spent at the lake on the day they were surveyed, and whether or not they stayed overnight. For both lakes, respondents are returning visitors.

Lake Tillery

The majority of respondents visiting Lake Tillery have visited the lake previously (Table 11). Most respondents visited more than 6 times per year, with just over one-third visiting one to five times per year. Respondents (n=1201) were generally repeat visitors to the lake. Norwood Access respondents reported a high frequency of visitation, with a majority visiting over 11 times per year; the majority of Stony Mountain Access visitors reported over six times per year, similar to Swift Island Access, Lilly's Bridge, Tillery Access, Tillery Canoe Portage, and the Informal Access Area visitation. Stony Mountain Access, Swift Island Access, Lilly's Bridge Access, Tillery Canoe Portage, and the Informal Access Area visitors follow a similar consistent pattern of 15 to 20 percent of visitors reporting across the 1 to 5 to 21 to 50 visitation ranges (Table 12).

Slightly over half of the respondents identified spending between one and four hours at Lake Tillery (54 percent). Thirty-seven percent identified spending four to eight hours, and 9 percent identified spending more than eight hours at the Lake (Table 13). Fourteen percent of respondents spent one or more nights at Lake Tillery. Of those people spending at least one night, 38 percent of the respondents spent one night, 34 percent spent two nights, and 15 percent spent three nights (Table 14). The majority of respondents stating that they had stayed over night came from two access areas: Swift Island Access followed by Lilly's Bridge Access Area.

Blewett Falls Lake

The majority of respondents visiting Blewett Falls Lake had visited the lake previously (Table 15). Most of the respondents had visited more than 6 times per year, with only 16 percent visiting one to five times per year. As with Lake Tillery, respondents (n=698) at Blewett Falls Lake were generally repeat visitors to each access location. The majority of visitors reported visiting more than 10 times per year came from Blewett Tailwater Access Area(70 percent), Pee Dee Access Area (65 percent), Grassy Islands Access Area (79 percent), Informal Tailrace Access (79 percent), and the Informal SR 1744 Site (79 percent). Visitors from the Blewett Falls Canoe Portage reported visiting less frequently, with 43 percent visiting 1 to 10 times per year respectively (Table 16).

Half of the respondents identified spending between one and four hours at Blewett Falls Lake (50 percent). Thirty-nine percent identified spending four to eight hours, and 11 percent identified spending more than eight hours at the Lake (Table 17). Twenty-one percent of respondents spent one or more nights at Blewett Falls Lake. Of those people spending at least one night, 45 percent of the respondents spent one night, 26 percent spent two nights, 16 percent spent three nights and 13 percent spent four to seven nights (Table 18). The majority of respondents staying over at least one night were from the Informal SR 1744 Site, followed by Pee Dee Access Area, Blewett Tailwater Access Area Grassy Islands Access Area.

1.1.2.5 Recreational Activities

To understand recreational activities visitors engaged in, respondents were asked to identify the activities they engaged in over the past 12-months, their primary reason for visiting the lake, and the activities they were engaged in on the day they were surveyed. Three activities were prominent at both lakes; boat fishing, bank fishing and motor boating. Respondents were also asked whether or not they participated in night time activities, and if so what activities they engaged in. In general, about half of visitors to Lake Tillery (49 percent) and Blewett Falls Lake (59 percent) participated in a night time activity.

Lake Tillery

■ Recreation Activities Over Past 12 Months

Visitors to Lake Tillery enjoy a range of activities from boat fishing to camping, wildlife viewing to hiking, and a range of other water related opportunities. Of those surveyed (n=1209), boat fishing was the most common recreational activity participated over the past 12 months at Lake Tillery (51 percent), (Table 19). Bank fishing was the second most common activity participated in over the past 12 months at Lake Tillery (40 percent). The third most common recreational activity at Lake Tillery was motor boating, with 27 percent of respondents participating over the past 12 months. A majority of those reporting motor boating were from the Swift Island (n=128) and Lilly's Bridge (n=77) Access Areas. Swimming was the fourth most common recreation activity participated in within the past 12 months at Lake Tillery. Twenty-five percent of respondents indicated they had been swimming, with the majority of respondents from Swift Island, and Lilly's Bridge Access Areas. Respondents reporting camping and picnicking were noted as the fifth most prevalent activity at Lake Tillery by 17 to 18 percent of all respondents. Other notable activities were water skiing (14 percent), sun bathing (13 percent), wildlife viewing and hiking (11 percent), and jet skiing (10 percent).

■ Primary Reason/Activity for Visiting Lake Tillery

Thirty-seven percent of respondents identified boat fishing as their primary recreation activity or reason for visiting Lake Tillery. Bank fishing was second (30 percent), followed by motor boating (15 percent) (Table 20). Boat fishing was reported most frequently by respondents at Swift Island and Lilly's Bridge Access Areas. For bank fishing, respondents from the Informal Access Areas reported the highest number of respondents. Respondents from Swift Island Access most frequently mentioned motor boating. The next most frequently mentioned primary activity was camping (6 percent), followed closely by hiking (5 percent), jet skiing (4 percent), picnicking (4 percent), and swimming (4 percent).

Hunting, sightseeing, river canoeing and sunbathing were identified as being the least common primary recreation activities or reasons for visiting Lake Tillery, each being identified by less than 1 percent of the respondents.

■ Activities Participated in "Today"

Respondents were consistent with previously reported primary activities and activities participated in the last 12 months, with boat fishing (34 percent) as the most frequently identified, followed by

bank fishing (31 percent), and motor boating (13 percent) (Table 21). Swift Island and Norwood Access Areas had the highest number of respondents reporting boat fishing activity. The largest number of respondents reporting bank fishing were from the Informal Access Area below the dam. The majority of respondents reporting motor boating and swimming came from Swift Island Access. Hunting was the least identified recreation activity, with only 0.1 percent of respondents identifying participating in hunting on the day they were interviewed.

Other activities that were identified by respondents as participating in or were going to be participating in at Lake Tillery were:

- Bass tournament;
- Bike riding;
- Attending Church;
- Dog swimming/training/walking;
- Duck hunting;
- Enjoying peace and quiet/Relaxation;
- Kayaking;
- Motorcycling;
- Pick up rocks for geology lesson;
- Sightseeing/Enjoying scenery;
- Tubing; and
- Fireworks.

■ Night Time Activities

About half (49 percent) of all respondents (n=1081) at Lake Tillery participated in night time activities. Night time activities are popular at all access areas surveyed, with 50 percent or higher of respondents reporting participating in night time activities at Norwood, Stony Mountain, Swift Island, and Tillery Access Areas. Respondents reported 42 to 47 percent participation in night time activities at Lilly's Bridge, Tillery Canoe Portage, and the Informal Access Areas (Table 22).

Additionally, the types of activities most popular by respondents at night were boat fishing, bank fishing and camping (Table 23). Boat fishing was mentioned by the majority of respondents from Norwood (78 percent), Stony Mountain (34 percent), Swift Island (56 percent), and Lilly's Bridge (50 percent); bank fishing was mentioned by the majority of respondents at Tillery Access (84 percent), Tillery Canoe Portage (68 percent), and the Informal Access Area (58 percent). Camping was the second most popular night time activity for respondents surveyed at Tillery Access and the Tillery Canoe Portage, and third for respondents located at the Stony Mountain Access Area.

Blewett Falls Lake

■ Recreation Activities Participated in Over Past 12 Months

Similar to Lake Tillery, visitors to Blewett Falls Lake enjoy a range of activities from boat fishing to camping, wildlife viewing to hiking, and a range of other water related opportunities. Of those surveyed (n=711), boat fishing was the most common recreational activity participated over the past 12 months at Blewett Falls Lake (60 percent) (Table 24). Bank fishing was the second most common activity participated in (55 percent). The third most common recreational activity at

Blewett Falls Lake was motor boating, with 26 percent of respondents participating over the past 12 months. A majority of those reporting motor boating were from the Pee Dee Access Area (n=72). Camping was the fourth most common recreation activity participated in within the past 12 months at Blewett Falls Lake. Twenty-five percent of respondents indicated they had been camping, by respondents mainly from the Pee Dee Access Area and Informal SR 1744 Site. Swimming was reported as the fifth most prevalent activity at Blewett Falls Lake by 22 percent of all respondents. Other notable activities were picnicking (15 percent), water skiing (11 percent), hunting (11 percent), sun bathing (9 percent), and wildlife viewing (9 percent).

■ Primary Reason/Activity for Visiting Blewett Falls Lake

The most frequent primary recreation activity/reason for visiting Blewett Falls Lake was bank fishing (41 percent), followed by boat fishing (40 percent) and motor boating (11 percent) (Table 26). Bank fishing was reported most frequently by respondents from Blewett Tailwater Access Areaand the Informal Tailrace Access Site. Respondents from Pee Dee and Grassy Islands Access Areas reported the frequency for boat fishing, while respondents from the Pee Dee Access Area most frequently mentioned motor boating. Overall, the next most frequently mentioned primary activities were swimming (8 percent), followed closely by camping (7 percent), picnicking (5 percent), and wildlife viewing, jet skiing, and sunbathing (4 percent).

Hunting and water skiing were identified by 3 percent of respondents, and hiking by 1 percent of respondents. River canoeing and lake canoeing were identified as the least common primary recreation activities or reasons for visiting Blewett Falls Lake, by less than 1 percent of the respondents.

■ Activities Participated in "Today"

Again, similar to Lake Tillery, respondents at Blewett Falls Lake were consistent with previously reported primary activities and activities participated in the last 12 months. Bank fishing (37 percent) dominated as the most frequently identified activity, followed by boat fishing (35 percent), and motor boating (11 percent) (Table 27).

Blewett Access and the Informal Tailrace Access Areas had the highest number of respondents reporting bank fishing activity. The largest number of respondents reporting boat fishing and motor boating came from the Pee Dee Access Area. The majority of respondents reporting swimming came from Informal SR 1744 Access Area. Lake canoeing was the least identified recreation activity, with only 0.1 percent of respondents.

Other activities that were identified by respondents as being participated in or were going to be participated in at Blewett Falls Lake were:

- Motorcycling;
- Relaxing;
- Sightseeing; and
- Visiting family.

■ Night Time Activities

More than half (59 percent) of all respondents (n=615) at Blewett Falls Lake participated in night time activities. Night time activities were mentioned at all of the access areas surveyed, with at least 50 percent reporting participation. Respondents from the Informal SR 1744 and Grassy Islands Access Areas reported the greatest participation in night time activities, with 73 percent and 69 percent of respondents' participation respectively (Table 27).

Again, similar to Lake Tillery, the types of activities most popular by respondents at night at Blewett Falls Lake were boat fishing (54 percent), bank fishing (50 percent) and camping (35 percent) (Table 28). Boat fishing was the most frequently reported night time activity for visitors at the Pee Dee (53 percent), and Grassy Islands (40 percent) Access Areas. Boat Fishing was the second most reported activity by respondents at the Informal Tailrace Access (29 percent), Blewett Falls Canoe Portage (25 percent), and Blewett Tailwater Access Area(24 percent).

Bank fishing was the most popular night time activity reported by visitors at the Informal Tailrace Access (51 percent), Blewett Tailwater Access Area(50 percent) and Blewett Falls Canoe Portage (38 percent), and the second most popular activity reported by visitors from the Informal SR 1744 (30 percent) access area. Camping was reported as the most popular night time activity by visitors at the Informal SR 1744 Site (37 percent), and the second most popular activity reported by visitors at the Pee Dee (26 percent), Grassy Islands (26 percent) and Blewett Falls Canoe Portage access areas (25 percent).

1.1.2.6 Conditions Interfering with Recreation Experiences

To understand visitors' satisfaction with their recreation experience at the lakes, visitors were asked whether or not they experienced a specific condition at Tillery or Blewett Falls Lake that interfered with their recreation experience. Secondly, if they did indicate "yes", they were asked to indicate what condition (i.e., crowded conditions, limited access, improper disposal of litter or trash, lake water levels) interfered with their recreation experience and indicate whether their level of concern was low, medium, or high.

Lake Tillery

Overall, the majority of respondents on Lake Tillery (67 percent) did not experience conditions that interfered with their recreation experience (Table 29, Figure 5). Of those that did respond "yes" (33 percent), it appears that a majority of respondents from the Stony Mountain Access (59 percent) and Tillery Canoe Portage (53 percent) experienced conditions that did interfere with their recreation experience (Table 30). Other areas where some respondents felt specific conditions interfered with their recreation experience occurred at the Norwood Access (36 percent); Swift Island Access (35 percent); and Tillery Access (39 percent).

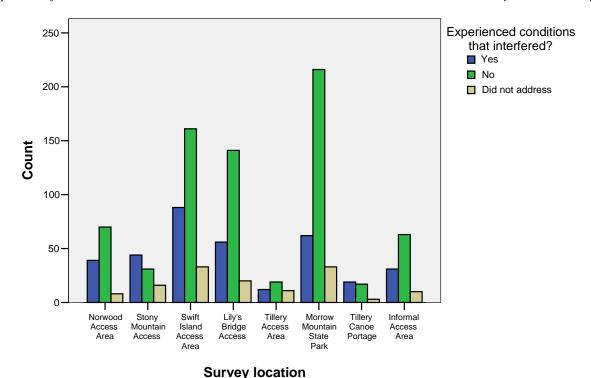


Figure 5 Lake Tillery - conditions interfering with recreation experience.

To further explore what conditions impacted visitors recreation experience at Lake Tillery, specific conditions were evaluated including crowding, limited access, improper disposal of litter/trash, and lake water levels.

■ Concern for Crowded Conditions

The majority of respondents did not have a concern with the crowded conditions at Lake Tillery (80 percent; n=967). Of those respondents that did express a level of concern (n=242), 62 percent expressed a low level of concern, 26 percent expressed a medium level of concern, and 12 percent expressed a high level of concern for crowded conditions (Table 31) (Figure 6).

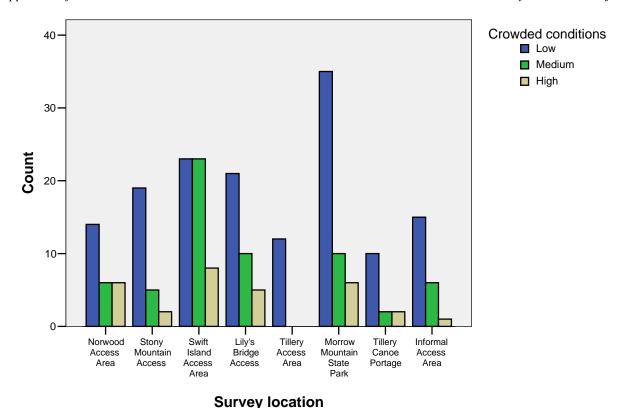


Figure 6 Crowded conditions at Lake Tillery.

When assessing level of concern for crowded conditions by location, of those respondents that did respond with some level of concern (20 percent; n=242), approximately half of the respondents from Norwood Access (n=12) and half of the respondents from Swift Island Access (n=31) had a medium to high level of concern for crowded conditions (Table 32). However, based on the total number of respondents, there is little concern for crowding at these sites.

Visitor Comments Regarding Crowding - "We love this lake and the reduced crowd it sees; that is why we travel here instead of fishing Lake Norwood. Weekend and holidays very crowded, pier starting to slope."

■ Concern for Limited Access

With respect to level of concern over limited access to Lake Tillery, the majority of respondents did not express concern for limited access (82 percent; n=986). (Figure 7) Of those that did respond "yes", a majority (74 percent) had low level of concern for limited access, 19 percent had medium level of concern, and 7 percent had high concern for limited access (Table 33).

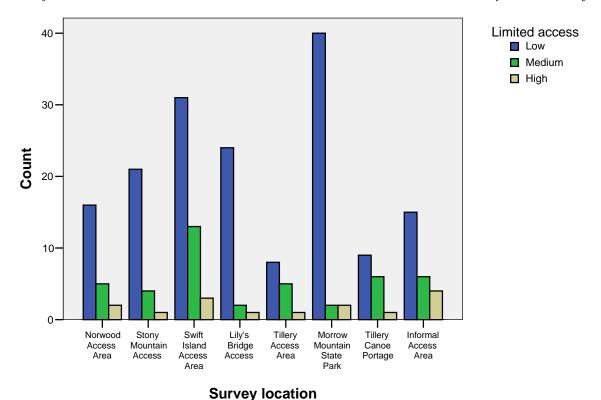


Figure 7 Limited access on Lake Tillery by location.

With respect to specific access areas on Lake Tillery, those that did not express a level of concern for access, the level of concern was low (74 percent) for the entire group of respondents at Lake Tillery. Approximately 30 percent to 40 percent of respondents expressed medium to high levels of concern with limited access at several survey locations, these were: Norwood Access, Swift Island Access (34 percent), Tillery Access (43 percent), Tillery Canoe Portage (42 percent), and the Informal Access Area (40 percent) (Table 34).

Visitor Comments on Limited Access – "Access is too soft and too little water; Improper parking of vehicles without trailers; Limited access for bank anglers; More access on east side of the lake; Not enough public access; Continue to have lake accessible to the public; More public access for bank fishing; Cut off boat access and jet ski access across road; No more restrictions on access; Handicap is not accessible most of the time; Young kids swimming and fishing at boat access a problem; Keep the park open later than 7 pm.; Need to maintain the road on a regular basis to keep gravel down; A sign should probably be placed at the entrance to Hydro Road; Clean up access so people can back up truck; More places to fish for handicapped; Access to the pump house should be made easier, users endanger themselves walking over rip rap. We need steps like Tuckstown Lake!; Asphalt is needed to cover the parking area and widen it; Mark designated parking spots at Swift Island to eliminate misuse of parking; Better parking from boaters; Parking lot wider; Ramp with more parking; Line parking lot at boat ramp; No parking down by water so people can put in boat; Need handicapped parking area."

■ Concern for Improper Disposal of Trash

The majority of respondents did not express a level of concern for improper disposal of litter or trash (80 percent). Of those that did express a level of concern, 40 percent had a low level of concern,

followed by 35 percent having a high level of concern regarding improper disposal of trash (Table 35). The responses did vary by location and therefore are summarized to reflect location differences (Table 36).

With respect to specific access areas on Lake Tillery, of those that did respond to level of concern regarding improper disposal of litter or trash (20 percent; n=289), the majority had medium to high level of concern (Table 36). In general, the primary areas reported as areas of concern include the Norwood Access Area, Stony Mountain Access Area, Swift Island Access, Tillery Access and Tillery Canoe Portage Areas, and the Informal Access Area (Figure 8).

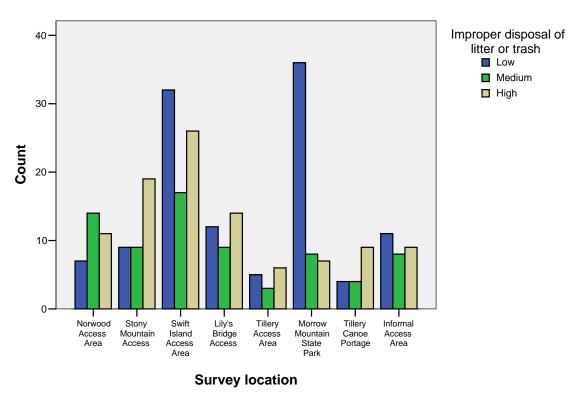


Figure 8 Level of concern for improper disposal of litter or Trash at Lake Tillery.

Visitor Comments Concerning Trash/Litter - "Too much trash left at boat ramp; add trash cans to access area; trash cans are needed to help keep launch clean; add trash cans for those that care about the lake and will use them; trash cans are needed to limit littering; trash people leave behind is very frustrating to look at!"

■ Concern for Lake Water Levels

Eight-two percent of respondents from Lake Tillery locations did not express a level of concern for lake water levels (Table 37). Of those that did, respondents were split between Low and Medium-High levels of concern. The highest levels of concern for water levels came from respondents surveyed at Norwood, Swift Island, and the Informal Access Area (Table 38, Figure 9).

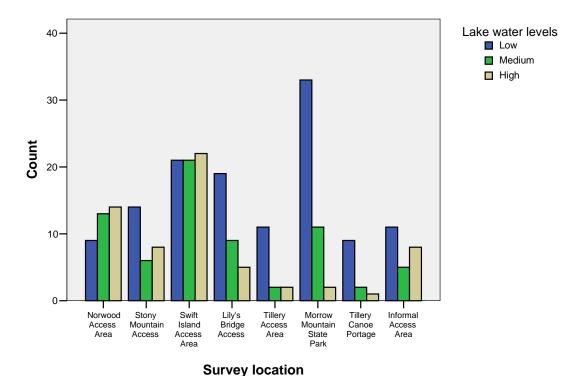


Figure 9 Level of concern for lake water levels at Lake Tillery.

Visitor Comments Regarding Lake Water Levels - "The lake level is better than years past for spawn; Couldn't get boat in water a couple of times because water too low, during environmental studies by Progress Energy; More accurate indication of water levels; Signs say water level will drop for 2 weeks but it has not; Dredge the area around Swift Island Dock because it is too shallow to use during periods of low water; Drop water levels only during weekdays; Plant operating condition need to have better updates via telephone (hourly) - lake levels/river releases; Very good, stable lake levels; High water conditions interfered with recreation experience; Enjoy coming, very satisfied, would like to know when the water is discharging, so they can plan their trips for better fishing; Sound horn when water is released; Public needs a way to find out the pumping schedule so they can fish during generation; Keep lake at same level at all times; Need stable water level; Keep Lake levels up during spawning; Provide a schedule for water levels; Algae on the bottom of the lake is a concern; I have a concern for water levels for fish spawning April-May - don't pull water; Lake water levels during spawning seasons are a concern; Lake fluctuations-low levels. Don't like the water level too low!"

Blewett Falls Lake

Unlike Lake Tillery, respondents at Blewett Falls Lake (60 percent) did experience conditions that interfered with their recreation experience (Table 39, Figure 10). Relative to a specific site access area, a majority of respondents responded 'yes', including Grassy Islands (83 percent), Informal SR 1744 (72 percent), Informal Tailrace Access (66 percent), Pee Dee (60 percent), and Blewett Falls Canoe Portage (57 percent) (see Table 40). Forty-five percent of respondents at the Blewett Tailwater Access Areafelt specific conditions interfered with their recreation experience.

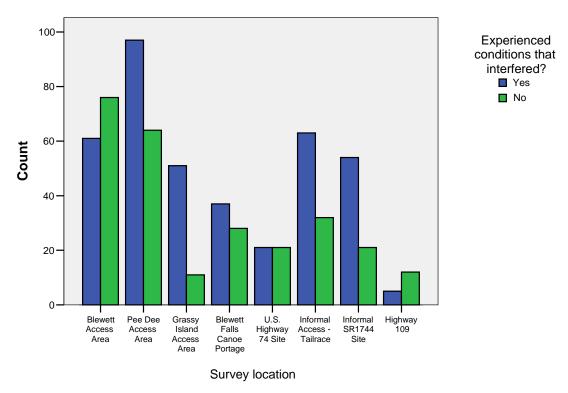


Figure 10 Conditions interfering with recreation experience at Blewett Falls Lake.

■ Concern for Crowded Conditions

The majority of respondents did not express a level of concern for crowded conditions (73 percent; n=521). Of those respondents that did express concern (n=190), 69 percent had a low level of concern for crowded conditions, followed by 23 percent responding with a medium level of concern and 8 percent having a high level of concern for Blewett Falls Lake (Table 41, Figure 11).

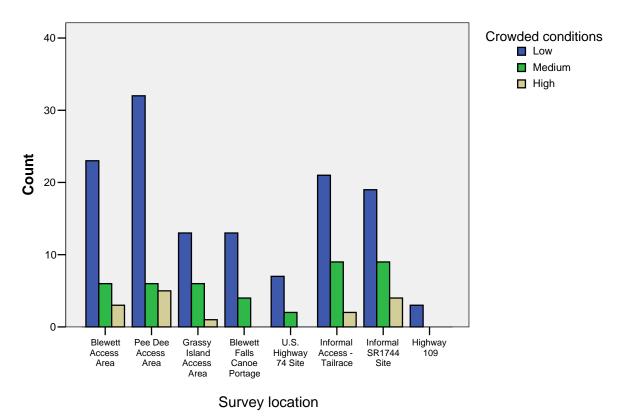


Figure 11 Level of concern for crowded conditions at Blewett Falls Lake.

When assessing level of concern for crowded conditions by access location, of those respondents that did respond with some level of concern (27 percent; n=190), approximately 40 percent of respondents from the Informal SR 1744 Site (n=13) and one third of the respondents from Informal Tailrace Access (n=11) and Grassy Islands Access Areas (n=7) had a medium to high level of concern for crowded conditions (Table 42). However, based on the total number of respondents, there seems to be little concern for crowding at these sites.

■ Concern for Limited Access

With respect to limited access to Blewett Falls Lake, the majority of respondents did not express a level of concern (71 percent; n=502). Of those that did respond "yes", almost half (47 percent) had low level of concern for limited access, 29 percent had medium level of concern, and 24 percent had high concern for limited access (Table 43, Figure 12).

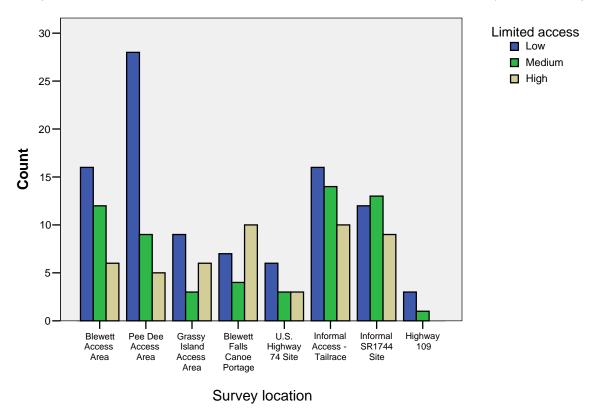


Figure 12 Level of concern for limited access on Blewett Falls Lake by location.

For those that did express a level of concern over concern for access, the level of concern was higher at Blewett Falls Lake than that at Lake Tillery for access areas. Over half of the respondents expressed a medium to high level of concern over access at Blewett Falls Canoe Portage (67 percent), Informal SR 1744 Site (65 percent), Informal Tailrace Access (60 percent), and Blewett Tailwater Access Area(53 percent). Half of the respondents expressed medium to high concern at Grassy Islands Access Area with 33 percent expressing medium to high concern at Pee Dee Access (Table 44).

Visitor Comments Concerning Limited Access – "Limited access - can't go where want to; Limited access - land between Blewett Falls Dam and 74 bridge privately owned now; Need better ramp at tailrace; Private ownership along river; People bring to many rods at times, interferes with access for other fisherman; Cars without trailers parking where trailer vehicles need to park; Boat launch near powerhouse taken away. Keep it open; If you (are) good fit the railing for (the) handicapped; Would like handicapped accessible fishing pier; More/better access; Stay open to the public; Need walkway for bank fishermen; Bank access should have gates open in summer and spring after hunting season-access roads are closed to all fishing unless you belong to hunt clubs; Open more access to the river section from 74 bridge to S.C. line and 109 bridge to the lake; Let people get closer to dam; Many of the old access roads are now closed to the public with gates; Have no problems with the lake and access to it; No access to river on Anson Co. side at river bridge; An additional well-maintained boating access on the Richmond County side is needed. Also, you need to open at least one more bank fishing access to reduce the pressure on what is here."

■ Concern for Improper Disposal of Litter or Trash

The majority of respondents did not express a concern for improper disposal of litter or trash (65 percent). Of those that did respond, 23 percent had a low level of concern, 27 percent had a medium level of concern, followed by 50 percent having a high level of concern regarding improper disposal of trash (Table 45). The responses did vary by location and therefore are summarized to reflect location differences (see Table 46).

With respect to specific access areas, of those that did respond to the level of concern regarding improper disposal of litter or trash (35 percent; n=250), the majority had a medium to high level of concern (Table 46). Of the public access areas at Blewett Falls Lake, greater than 63 percent of respondents at Blewett Falls Lake had a medium to high level of concern for the improper disposal of litter or trash (Figure 13).

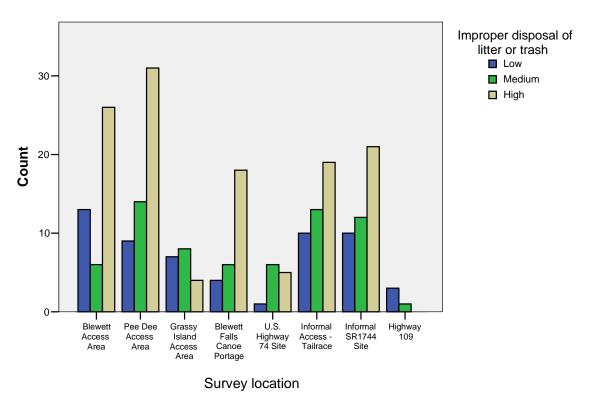


Figure 13 Level of concern for improper disposal of litter or trash at Blewett Falls Lake.

Visitor Comments Concerning Trash/Litter - "Add dumpster; Dumpsters should be provided; More supervision on persons who litter; Trash cans should be placed around the ramp; Need to regulate trash and those that litter; People should keep areas (campgrounds/access areas) litter-free (trash problem perception); I think there needs to be a little more facilities for trash disposal or someone who cleans the area; People won't clean up trash; Dumpsters need to be provided at Informal; Keep it clean; Strict regulation needs to be placed on the users of this lake concerning trash and environmental use."

■ Concern for Lake Water Levels

Fifty-four percent of respondents from Blewett Falls Lake locations did not express a level of concern for lake water levels (Table 47). Of those that did, respondents were split between Low-Medium and High levels of concern. The highest levels of concern for water levels came from respondents surveyed at Pee Dee, Grassy Island, Blewett Access, and the Informal Tailrace Access Access Areas (Table 48, Figure 14).

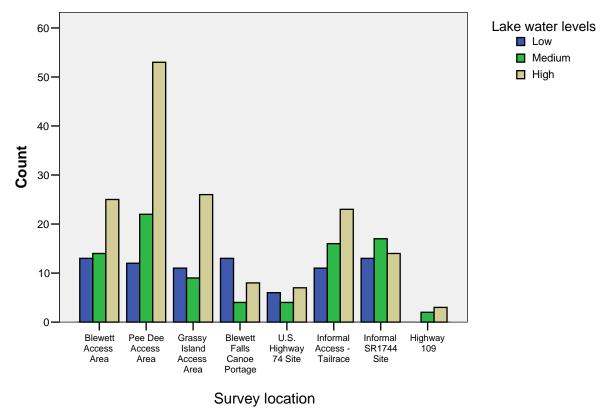


Figure 14 Level of concern for lake water levels at Blewett Falls Lake.

Visitor Comments Concerning Lake Water Levels - "Very unhappy with water levels; hard to put in anywhere at lake when water is down; Water stays low or medium; Water too low; People getting stranded getting to camp; more access points (one's that can get to under low water); River water levels stranding boaters; Need to run some water all the time; Would like stable lake levels on weekends: Great lake, needs higher water levels more often and better ramps during low water levels; Stop fluctuating water levels; Keep water levels the same; Water release schedule; Raise water levels; Raise water levels and keep them up; Keep water up; Reduce water level fluctuation; Control the dropping of water during crappie spawn season; Lake levels have been low recentlyduring crappie spawn; Make more accurate lake level recordings; Changing water levels drastic on Blewett Falls but not on Tillery, live closer to BF, why is there a difference in levels? Crappie beds left high and dry; The water levels at Grassy Islands Access create too many problems for fishermen who cannot use this access; Fluctuating lake levels affect boating fishing; Lake level fluctuations affect fishing and boating; Don't fluctuate lake; Keep enough water in Mountain Creek to get to the main channel of the lake; Jerking water levels up and down, messes up crappie fishing. Tillery stays stable while Blewett goes up and down - affects spawning fish; Fewer fish due to fluctuating water levels; less water level fluctuation so can get out of launch area to river; Water levels at this access fluctuate to extremes and often the water is too low for boaters to use; Leave enough water in

Mountain Creek for the access area; Experience low water frequently; Stop fluctuating the water so much; 45-50 percent of the time I want to use this access point the water is too low to put a boat in; Maintain water levels during spawning; Don't blow siren anymore for warning - need to give notice; In the spring the water flow in the river should be regulated to allow anadromous fish the correct flow they need for spawning; Need telephone number to know about generation levels and boating access - also something about river levels - not computer literate; Post a phone number for people to call to check if plant is generating; When the water level is down it is impossible to use this access and area of the river, the ramp doesn't meet the water; Regulations should be placed to ensure smaller water level changes; Water levels at Blewett and below dam fluctuate levels that harm eggs after spawn. Also makes for poor fishing with levels that differ from day to day."

1.1.2.7 Visitor Perceptions of Crowding

Lake Tillery

■ Crowding at Lake Tillery

Seventy-four percent of respondents addressed the question their perceptions of crowding at Lake Tillery (Table 49). Of these respondents, 57 percent indicated that they thought the Lake was "not crowded", 37 percent indicated that the level of crowding was "acceptable", while 7 percent indicated that they thought the Lake was "very crowded". Table 50 outlines the perceived level of crowding by respondents access location (Figure 15).

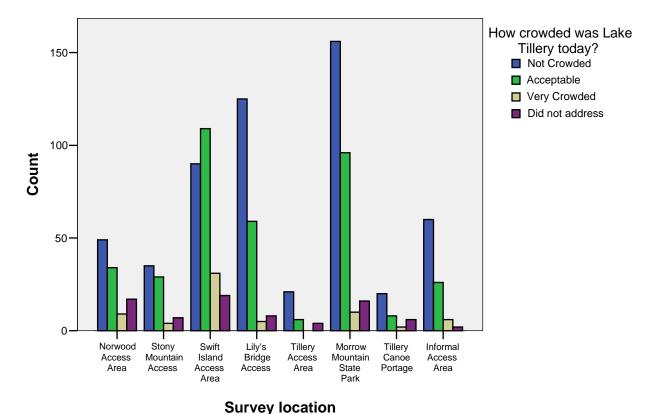


Figure 15 Crowding on Lake Tillery.

■ Crowding at Access

The majority of respondents (95 percent) did not perceive access points as crowded (Table 51). Of these respondents, 60 percent indicated the access points were "not crowded" at all, while 35 percent perceived the level of crowding as "acceptable", with 5 percent indicating that access points at Lake Tillery were "very crowded". Table 52 outlines respondents perceived level of concern of crowding per access area (Figure 16).

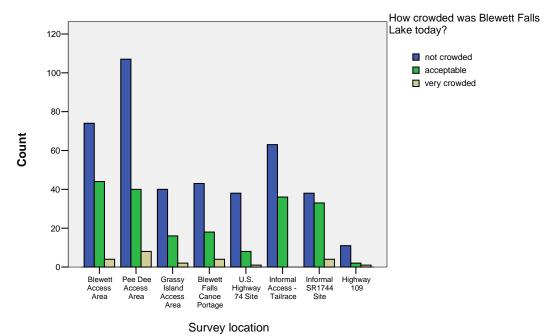


Figure 16 Lake Tillery crowding at access.

Blewett Falls Lake

■ Crowding at Blewett Falls Lake

The majority of respondents surveyed did not perceive the Blewett Falls Lake as "very crowded". Ninety percent of respondents addressed the question of their perceptions of crowding at Blewett Falls Lake (Table 53). Of these respondents, 65 percent indicated that they thought the Lake was "not crowded", 31 percent indicated that the level of crowding was "acceptable", while 4 percent indicated that they thought the Lake was "very crowded". Table 54 outlines respondent's perceived level of concern for crowding at the lake by access area (Figure 17).

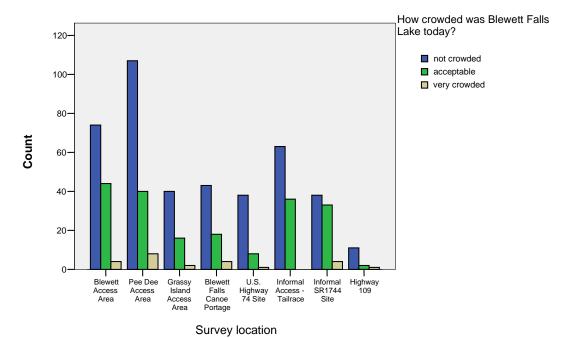


Figure 17 Visitor perceptions of crowding on Blewett Falls Lake.

■ Crowding at Access

The majority of respondents (93 percent) addressed the question regarding crowding at access points on Blewett Falls Lake (Table 55). Of these respondents, 65 percent indicated the access points were "not crowded at all", while 31 percent perceived the level of crowding as "acceptable", with 4 percent indicating that access at Blewett Falls Lake were "very crowded". Table 56 outlines the level of concern for respondents' level of crowding at access by survey location (Figure 18).

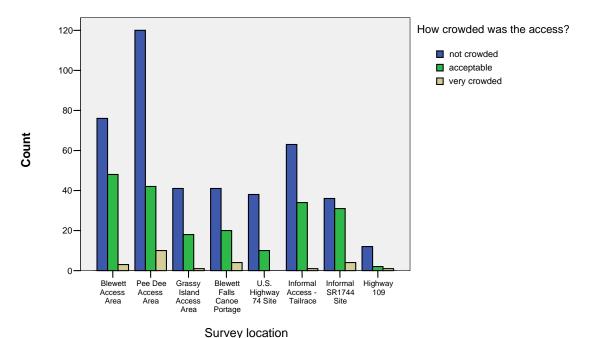


Figure 18 Perceptions of crowding at access locations at Blewett Falls Lake.

Visitor Comments on Crowding - "Very crowded on holidays and weekends."

1.1.2.8 Facility Conditions

Visitors were asked to provide their opinion of the condition of facilities, including boat ramps and docks, the parking lot, marina, campgrounds, toilets, fishing piers and signage.

Lake Tillery

■ Condition of Boat Ramps/Docks

The majority of all respondents at each access area felt that the boat ramps/docks were in "very good" to "acceptable condition" (Table 57, Figure 19). Ten percent of respondents from the Norwood and Informal Access areas felt that the boat ramp/docks were "inadequate", with all remaining responses "not adequate" reporting less than 10 percent.

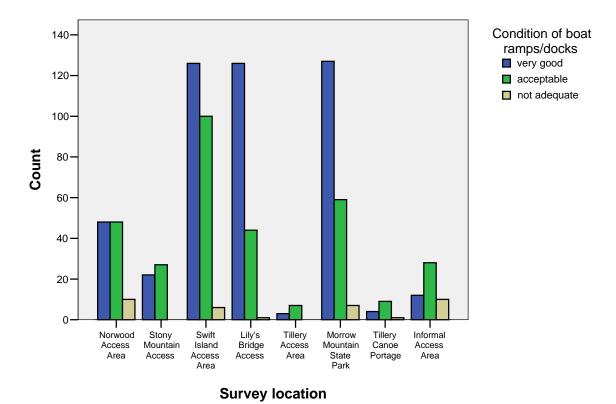


Figure 19 Lake Tillery - condition of boat ramps/docks.

Visitor Comments on Boat Ramps - "Ramps, parking lot and marina could use some updating; No wake buoys to close to ramp; Couple more ramps three wide; Widen boat ramps; One of the best boat ramps of all the places I fish; Repairs of ramps; Like state park boat ramp because they feel safer (truck, trailer); Fix boat ramp at hydro; Add a fishing pier; Add a fishing pier and trash cans for bank fisherman along the point at Stony Mountain; Docks need cleats for tying off, and a dock for tying boat away from main ramp should be added; Wish they wouldn't have taken the dock here at Lilly's Bridge out; Add fishing pier at 1740 and 1745; Pier could be straight out; Please fix the pier now that it has washed away."

■ Condition of Parking Lots

In general, respondents visiting Lake Tillery felt that the parking lots were in "acceptable" to "very good" condition (Table 58, Figure 20). The Tillery access area was the only area where more than 10 percent of respondents felt the parking lot was "not acceptable", the rest of respondents at various access points had less than 10 percent and generally felt that the parking areas were "acceptable" to "very good".

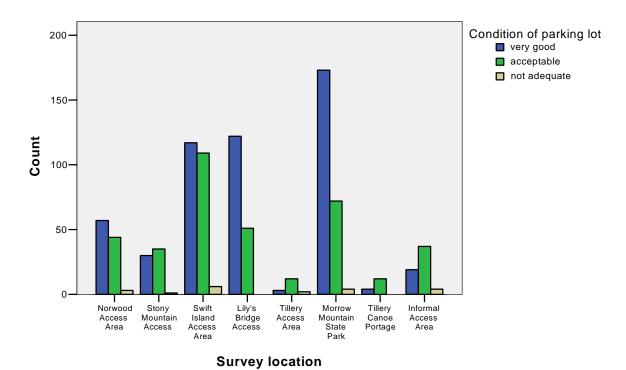


Figure 20 Lake Tillery - condition of parking lots.

■ Condition of Marinas

The majority of respondents from all access areas at Lake Tillery felt the Marinas were "adequate" to "very good" (90 percent or higher) (Table 59, Figure 21).

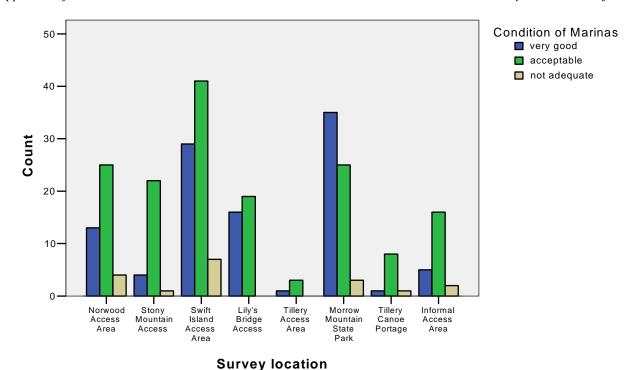


Figure 21 Lake Tillery - condition of marinas.

■ Condition of Campgrounds

The majority of respondents (90 percent or greater) from the Norwood, Lilly's Bridge, Tillery, Tillery Canoe Portage, and Informal Access areas felt that the campgrounds at Lake Tillery were "adequate" to "very good". Stony Mountain and the Swift Island Access were the exceptions, with 17 percent of Stony Mountain respondents and 11 percent of Swift Island respondents identifying campgrounds as "inadequate" (Table 61, Figure 22).

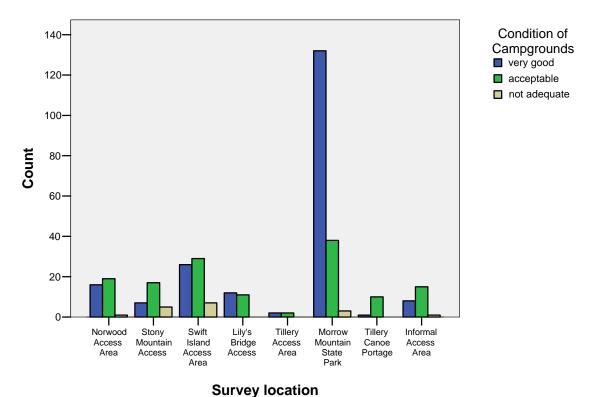


Figure 22 Lake Tillery - condition of campgrounds.

■ Condition of Toilets

The majority of respondents (50 percent) from the Lilly's Bridge Access felt the toilet facilities were "not adequate", with 46 percent identifying them as "acceptable", and 5 percent as "very good". The majority of respondents at the Stony Mountain Access felt the toilet facilities were "acceptable", with 41 percent identifying the toilet facilities were "not adequate". Over 35 percent of respondents at the Norwood and Swift Island Access areas felt that the toilet facilities were "not adequate," with the majority stating they were "acceptable". The majority of respondents at Tillery Access Area (73 percent) and Informal Access (62 percent) felt the toilets were "acceptable", with just over 27 percent and 26 percent respectively stating that they were "not adequate". And, the majority of respondents at the Tillery Canoe Portage (83 percent) felt the toilet facilities were "acceptable", with a small percentage identifying them as "not adequate" (17 percent) (see Table 61, Figure 23).

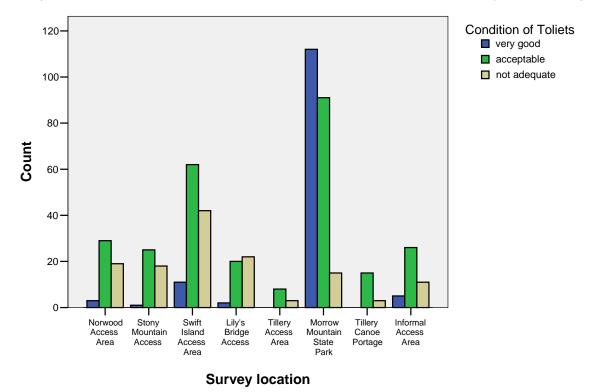


Figure 23 Lake Tillery - condition of toilet facilities

Visitor Comments on Condition of Toilet Facilities - "Need toilets at Powerhouse; Add bathrooms; Add Port-A-Johns and water fountain at Blewett Access for boaters and fishermen; Bathrooms and water fountain; Bathrooms; Most all lakes that I have been to have some form of a restroom and this facility should as well; Need to have a way to get clean water and restroom for man and women; Would like to see bathroom installed here; Help with toilet facilities."

■ Condition of Fishing Piers

In general, the condition of fishing piers reported by respondents at the Swift Island Access, and Informal Access areas appear to be in "acceptable" to "very good" condition (Table 62, Figure 24). Approximately 40 percent at both the Stony Mountain Access (39 percent) and the Tillery Access areas (43 percent) felt that the fishing piers were "not adequate." Nearly one-third of respondents at the Norwood Access (28 percent) felt the fishing piers were "not adequate", as well as nearly 20 percent of those responding at the Tillery Canoe Portage. The remaining respondents from the Swift Island, Lilly's Bridge, and Informal Access areas identified the fishing piers as "very good" or "acceptable".

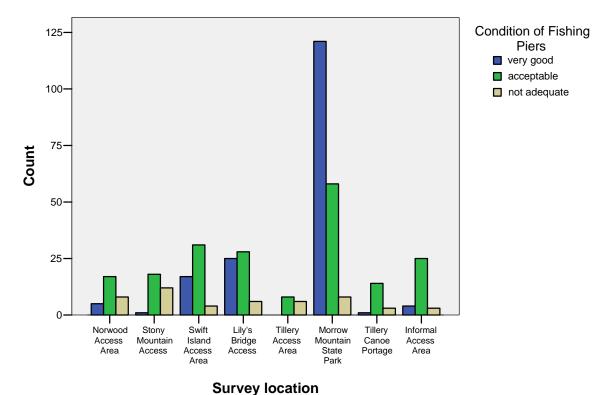


Figure 24 Lake Tillery - condition of fishing piers.

■ Signage

A majority of respondents (90 percent or greater) from Norwood, Stony Mountain, Lilly's Bridge, and Informal Access areas felt there was "acceptable" to "very good" signage. A small number of respondents from Swift Island (10 percent), Tillery Canoe Portage (14 percent), and Tillery Access Area (21 percent) felt as though signage was "not adequate" (Table 63, Figure 25).

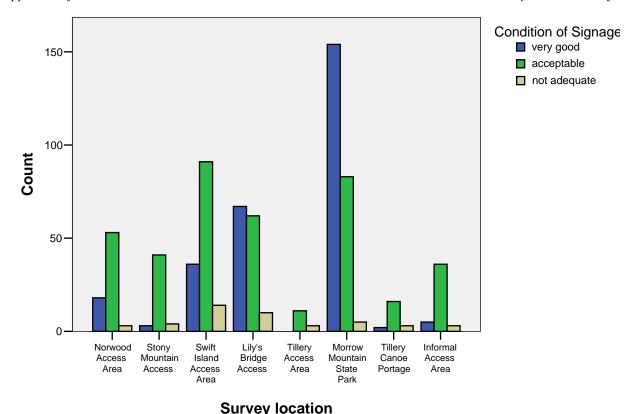


Figure 25 Lake Tillery - condition of signage.

Visitor Comments on Signage - "Need more signs preventing littering; Better signs about fishing; Bigger sign on main road; More danger sign buoys around points; Need signs for people not to block access ramp and park in parking lot; Yield sign is dangerous and confusing; Maps with trails are good; Some signs on hiking trail hard to read and hard to find; Could have used a good map of lake showing depths - could not find one; Educational signs to encourage respect and care of park."

■ Issues of Conflict and Concern

Recreationists at Lake Tillery were asked to "identify any user conflicts [they had] today with other recreational users". In addition to conflicts with recreation users, respondents mentioned areas of concern with other conditions related to facilities. The primary areas of conflict mentioned were focused on motor boaters (behavior, noise, and numbers), jet skiers (age of users, irresponsible behavior, and noise), and noise from unruly campers. Other areas included the environment and management issues (time of park closures, provision of amenities such as bait, port-a-johns, trash cans), and noise from unruly campers. (For a summary of the frequency of types of comments, see Table 64.)

Application for License	Yadkin-Pee Dee River Hydroelectric Project
Summary of Visitor Conflict Comme	ents at Lake Tillerv
General Visitor Behavior:	Ramp etiquette; Summer is crowded. Rude impatient people. Crowded camp sites! Noiseloud campers! Lots of loud party goers and rude campers. Rude impatient people! Neighboring fisherman is stealing all fish. Police said no camping
Conflicts with Motorized Use-Boats:	Boat skiers/jet skiers and crowding in narrow arms/coves; boaters are not respectful of bank users and not respectful of bank fishers; boaters throw wake too close to shore; boaters are coming too close to shore where we are trying to fish; boats and jet skis are a conflict; no regard for no-wake zones; power boat wakes are a problem; speeding motor boats are a conflict; A motorboat sunk our boat with a high wake; too many motor-boaters; Bass fisherman in tournaments with no boating etiquette!
Conflicts with Motorized Use-Jetski:	Jet skiers - boat navigation problems; they get into cove and around fisherman; interfere with navigation; ride boat waves and are nuisance to boaters; nuisance; they are a problem; bother fishing; they are in the backwater areas; close to bank; too close to others; too close to fisherman; right in front of the fishing pier; need better regulation, particularly with children in the water; no concern for others; interfere with fishing and boating; there are too many jet skiers; jet skiers are inexperienced; young riders on jet skis are a problem; too close and too fast; coves are too crowded by jet skis - no respect for people who live there!; Jet skis are a big problem; Jet skis & pleasure riders limited to main channels so they can enjoy the lake & not interfere with fishermen; Wildlife officer attitude against jet skier; Jet skis need strict regulation on age and experience; Jet skis need some form of user regulation and needs to be enforced; Jet skiers need a designated area to keep them away from backwater; Wave runners need regulation; Kids ride them and do not understand rules; Too many under-age drivers on jetski (<14); Landing just for jet skis; Lack of respect by some users, primarily jet skiers, getting too close to banks and going too fast; Noise is a concern - too many jet skis; Concern with jet skies; Regulating jet skies; No jet skiing allowed; Increase the age of users; Annoyed with jet ski use on lake; Jet skiers need regulation to limit noise; No jet skis; Children on jet skis; Acceptable during the week but not on weekends; Jet skies really bother me a lot!!!
Additional Visitor Comments and Co	
General	A place of pleasure and good wildlife; All facilities are in good condition and well maintained; Always nice; As a family we absolutely love Morrow Mountain State Park and the public opportunities it offers; As far as we can tell being here the first time, nice lake and well managed; Beautiful area; Favorite lake to use, that's why we come here; For my first I am really impressed by the facilities and their conditions; For the most part I would have to say the lake is managed well overall; Great place for the kids to enjoy nature; Great place to

A place of pleasure and good wildlife; All facilities are in good condition and well maintained; Always nice; As a family we absolutely love Morrow Mountain State Park and the public opportunities it offers; As far as we can tell being here the first time, nice lake and well managed; Beautiful area; Favorite lake to use, that's why we come here; For my first I am really impressed by the facilities and their conditions; For the most part I would have to say the lake is managed well overall; Great place for the kids to enjoy nature; Great place to visit - we love the pier; Great spot to kayak; I really enjoy this lake and we come here to avoid Badin Lake on the weekends; I really love the lake and enjoy using it. I come here instead of Blewett Falls because the water level stays constant; Love the lake - "Excellent job keeping the lake and campground clean"; Morrow Mountain and Lake Tillery are beautiful; I really enjoy using the resource; Most beautiful I have been to; Much cleaner and nicer than Badin Lake, etc; Park employees are helpful and do a good job; Park staff is good including lifeguard, clean park, and family friendly; Progress does good job of informing recreation users of lake, beach and facilities; Really enjoyed the lake - it is a nice change of pace from Lake Norman; We come from Matthews because this lake is nicer and more enjoyable than other local lakes; We love the lake - it has always been in excellent condition.

Facilities-Amenities	Restrooms are needed; We need a better boat ramp; more bank access to the lake; more trash cans; access to bait and supplies; Port-a-Johns; plan for camping with more seclusion; Picnic tables at access area; Great place but would be nice to have picnic and restroom facilities; Playground for kids, swimming area; Public picnic areas and access for people that don't live on the lake; Canoes should be available longer; Pool too expensive for a large family; Would like food and live entertainment; Add restaurants around lake; Bait shop at local access sites would be nice; Need restaurants; More stores for tackle around lake; Sell bait here; Open bait shop for convenience; Swift Water, need a store, bait, ice etc.; Lights in parking; Lights for security and cameras; Parking lot needs lights; Private additional lighting for night time usage; Additional lighting around access for night fishing; It would be nice if lights were added, we have friends that have trailers and trucks and fish at night; Need light for boat ramp; Need light at boat ramp; Put up lights for fishing at night and canoe portage. Also open the road to allow for vehicles further down hill.
Fishing/ Fish Stock	Progress Energy needs to put fish in the lake; Consider restocking large mouth bass due to people taking too many smaller fish; Lake is over fished - too many tournaments; Slot limit on bass to limit over catching, since the population around the lake has increased the fish have dropped off; Annual restocking of the lake; Fishing has really dropped in the past two years; Need more public fishing areas for bank anglers; Quit stocking stripers (striped bass) and stock crappie; Stock up on game fish.
Law Enforcement/Security	More law enforcement on lake especially for jet skiers; Too much drinking and shooting guns on weekend; More game wardens on lake - never see any; More regulation and patrol by wildlife and law enforcement; Jet skis need strict rules around users.
Navigation	Stumps in lake need to be marked better; We are new to the lake and noticed some hazardous debris; Navigation buoys for restricted coves; Some of the dangerous rocks and trees upstream aren't marked and can be potential problems for boaters.
Maintenance	Mow grass around bank; Grassy area needs to be cleaned up for navigation; Stumps on the way to main channel; Need to mark trees upstream; Mark rocks and obstructions better in the upper part of the lake; Clear some brush to make better bank access.

Blewett Falls Lake

■ Condition of Boat Ramps/Docks

The majority of all respondents at each access area felt that the boat ramps/docks were in "very good" to "acceptable" condition (Table 65, Figure 26). Twenty-seven percent of respondents from the Informal Tailrace Access area, and 17 percent of respondents from the Blewett Falls Canoe Portage area felt that the boat ramps/docks were "inadequate". Ten percent or less of the respondents from the remainder of the access areas felt that the condition of the boat ramps/docks was "inadequate."

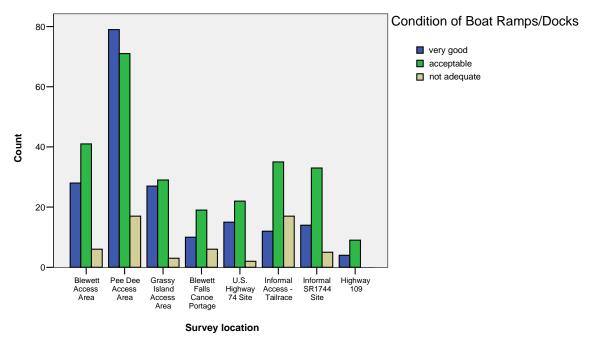


Figure 26 Blewett Falls Lake - condition of boat ramps/docks.

Visitor Comments Concerning Condition of Boat Ramps/Docks - "Extend the concrete of the boat ramp for low water periods at Pee Dee ramp; Add Richmond Co. boat landing; Boat ramp is too steep; Boat ramp drinkers - dangerous - particularly up at informal R1744 access; Need to grade boat ramp; Right hand ramp at Pee Dee Access drops off because of a hole in the ramp; Boat ramp hare is steep and cars slip on all of the gravel; Ramp improvements."

■ Condition of Parking Lots

Overall, 92 percent of respondents visiting Blewett Falls Lake felt that the parking lots were in "very good" to "acceptable" condition (Table 66, Figure 27). Twenty-one percent of respondents at Blewett Falls Canoe Portage access area, 15 percent at Informal Tailrace Access area, and 14 percent at Informal SR 1744 Site felt that the parking lots were "not acceptable." Less than 10 percent of the respondents felt that the parking lots were "inadequate."

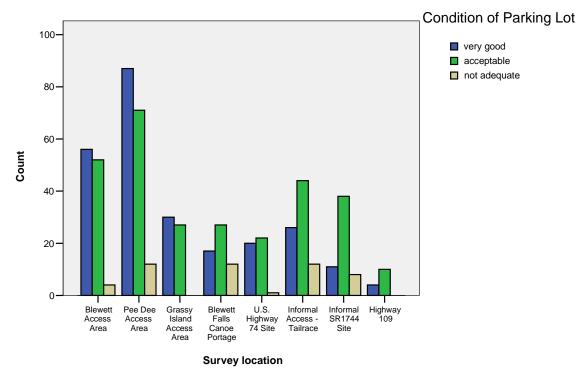


Figure 27 Blewett Falls Lake - condition of parking lot.

Visitor Comments Concerning Condition of Parking Lots - "Need to enforce parking areas and restrictions at Pee Dee Access; Better parking area with actual spots; Smoother parking area at tailrace ramp."

■ Condition of Campgrounds

Overall, more than one-third of the respondents (36 percent) at Blewett Falls Lake felt that the campgrounds were "not adequate" (Table 67, Figure 28). With respect to specific access areas, half of the respondents at the Blewett Falls Canoe Portage (52 percent), the Grassy Islands Access Area (50 percent), and the Informal SR 1744 Site (48 percent) felt that the condition of the campgrounds was "not adequate." Between 15 and 33 percent of the respondents from the other access areas at Blewett Falls Lake also felt the condition of the campgrounds were "not adequate".

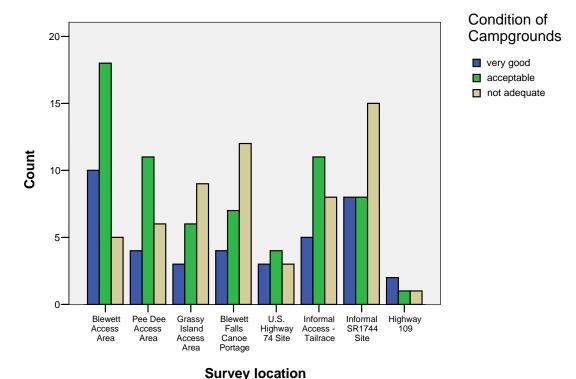


Figure 28 Blewett Falls Lake - condition of campgrounds.

Visitor Comments Concerning Condition of Campgrounds - "Need tighter regulation and restrictions on camping; Please focus on good facilities for public camping; More camping; Please increase camping areas; Camping needs more opportunity and stiffer regulations; Allow camping here; Want to camp at Blewett Falls Canoe portage site; Need to open camping and access to four-wheelers back up; Keep area and camping open; Commercial and public camping opportunities are here, the resource should be tapped; I would love to be able to camp again - I've been coming here since I was 6 years old - I love it!!!"

■ Condition of Toilet Facilities

In general, half of all respondents at Blewett Falls Lake felt that the condition of the toilet facilities was "not adequate" (51 percent) (Table 68, Figure 29). The access areas where less than half of the respondents felt the toilets were "not adequate" was the Informal Tailrace Access Area (43 percent).

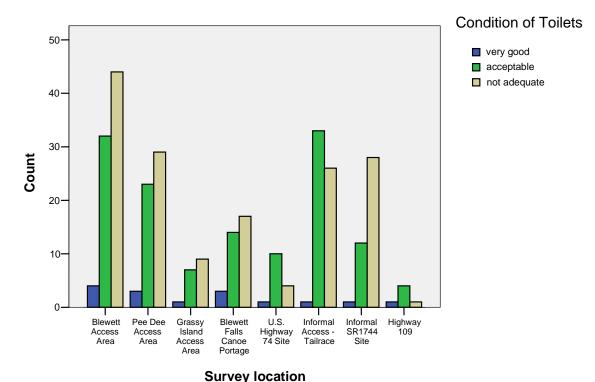


Figure 29 Blewett Falls Lake - condition of toilet facilities.

Visitor Comments Concerning Condition of Toilet Facilities - "Need toilets at Powerhouse; Add bathrooms; Add Port-A-Johns and water fountain at Blewett Access for boaters and fishermen; Bathrooms and water fountain; Bathrooms; Most all lakes that I have been to have some form of a restroom and this facility should as well; Need to have a way to get clean water and restroom for man and women; Would like to see bathroom installed here; Help with toilet facilities."

■ Condition of Fishing Piers

The majority of respondents from the Blewett Tailwater Access Area(56 percent) and the Informal Tailrace Access Site (54 percent) felt that the condition of the fishing piers was "acceptable" (Table 69, Figure 30). Between 35 and 45 percent of respondents from Informal SR 1744 Site, Pee Dee Access Area, Blewett Falls Canoe Portage and Grassy Islands Access Area felt that the condition of the fishing piers was "not acceptable".

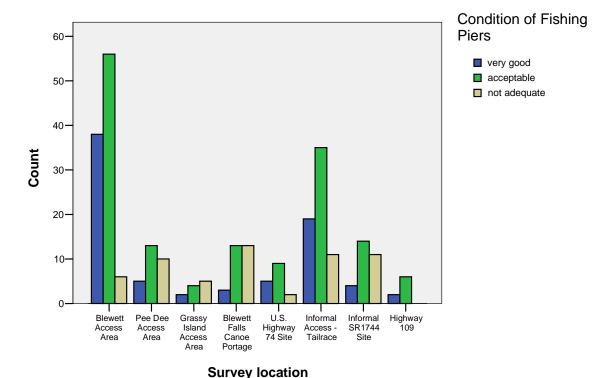


Figure 30 Blewett Falls Lake - condition of fishing piers.

■ Condition of Signage

A majority of respondents (90 percent or greater) from Blewett, Pee Dee, and Grassy Islands Access areas felt there was "acceptable" to "very good" signage. A small number of respondents from Blewett Falls Canoe Portage (14 percent), Informal Tailrace Access (17 percent) and Informal SR 1744 Site (17 percent) felt as though signage was "not adequate" (Table 70, Figure 31).

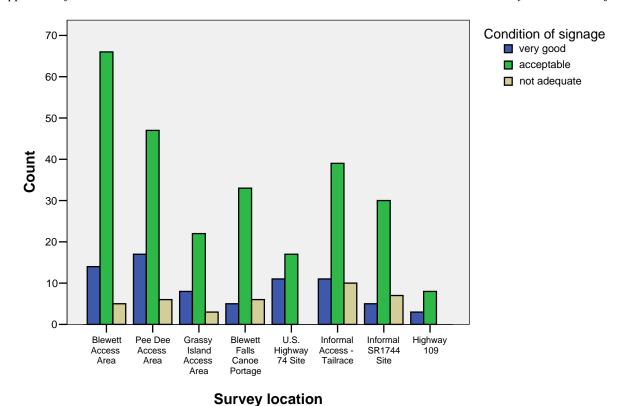


Figure 31 Blewett Falls Lake - condition of signage.

■ Issues of Conflict and Concern

Recreationists at Blewett Falls Lake were asked to "identify any user conflicts [they had] today with other recreational users". The primary areas of conflict were unruly behavior of other recreationists, conflicts with motorized boaters and jet skis. In addition to conflicts, respondents raised other issues affecting their recreational experience (for a summary of frequency of types of comments, see Table 71).

Summary of Visitor Conflicts at Blewett Falls Lake		
General Visitor Behavior:	Drinking and unruly behavior; Intoxicated persons; Had my window smashed and car scratched; People drinking and using drugs; need to regulate users; People have too much alcohol and get rowdy; People not cleaning up when camping; People shooting and slashing tires; Drunks in evenings on weekends	
	(not today though); Conflicts have been reduced since camping was stopped.	
Conflicts with Motorized Use-Boats:	Boaters driving close to bank and running over lines.	
Conflicts with Motorized Use-Jetski:	Jet skiers and weekend parties do not respect fisherman; Jet skiers are a constant conflict; Jet skiers do not respect other users; Jet skis have caused problems for fishing.	
Additional Comments and Concerns	at Blewett Falls Lake	
General	This lake has a little for my entire family; First time here, this is a nice place & I will be coming back; Everything has been OK for me; Enjoy the lake; Leave the lake undeveloped and like the current state; I like the lake like it is - don't change it; Nice place to visit; Beautiful place - have come here for years - we love it; Fine facility; I've never had any problems, everything is nice; I've always really enjoyed it down here; We love our old boat landing - I have stored it in Anson County for 30 years and have enjoyed it for 30 years; We really enjoy the lake and being able to use it; Enjoy; I appreciate being able to use the lake.	

Fishing/Fish stock	Limit the number of rods used on wall per person; Gate that extends over water interferes with getting to lower access to land large fish; Would like to see the fishing get better; Need regulation on fish catches; keeping fish that aren't supposed to be kept; Enjoy fishing here; More areas to land large fish; Stock the river with white bass and crappie; Stock fish; Designate some parts of the lake (as) fishing only - or no (gas) motors, only trolling motors; Absolutely love fishing in Blewett; Need to regulate fish harvest on crappie and bass; Jug fisherman have lines out; Stock lake with big catfish; Stop using jugs; More areas to fish that are cleared out along bank; Would like to continue fishing at dams and lake day/night; When I fish at the tailrace people fish with 5-6 rods and that reduces room for other fishermen - the rod limit should be limited to two; If people are fishing on banks, boats shouldn't come in too close to the fisherman's line;
Amenities/Facilities	Need lights at boat ramps; Area light in parking lot; Light in Parking lot. Lights in parking lot; Light Pee Dee Access; Street lights around accesses will help with security at night; Open a bait store or vending machine that sells bait at the dam; provide water for fishermen to wash hands at the dam; pay phone for fishermen in case of emergency; Really need a roof, so that if it starts raining you don't have to leave - you can stay and enjoy; Playground & rides for kids; Need beaches at portage for fishing/wildlife viewing; Picnic tables; Turning these areas into a public beach or park would provide the recreation people need and help stop the litter and misuse; Picnic tables need to be added to allow places for users to sit.
Security	Have game warden come more often at night; Warden should visit or police to keep people from getting too drunk; People drinking on fishing pier interfered with my recreation; Supervision of access area, security; Not enough law enforcement - too few wardens. Safer trails, steps with rails; Children running back and forth on walkway - restrict to fishing only; Try to keep off walkway - safety issue for kids.
Debris/maintenance	Flag stumps with buoys; Clean up debris, mark stumps; Clean up banks; Get rid of stumps, Stop taking out stumps and reducing natural wood in the lake; Too much debris around lake; big logs floating around should be removed; Clean up stumps and debris in water; Remove trees; Woody debris in front of boat ramps; Have stumps marked better or removed; Make the lake a lot safer and more enjoyable; Clean up the bank; Keep the grass cut; Too many snags and brush off HWY 109 access for bank fishermen.

1.1.2.9 Trip Expenses

Lake Tillery Visitors

Respondents visiting Lake Tillery spend on average the most money in three areas, gas, food, and lodging (Table 72). Lodging was identified as expenditure for those respondents from Norwood, Swift Island, Lilly's Bridge, and slightly for Tillery Canoe Portage respondents (Table 73). Purchasing gasoline was the highest overall expenditure by respondents, followed by food. Based on the residence of the majority of respondents, however, logically, lodging was not a significant annual expenditure for visitors to Lake Tillery.

Blewett Falls Lake Visitors

Respondents to Blewett Falls Lake spend on average the most money in the areas of gas, food and bait and tackle (Table 73). On average, respondents spent \$14 on gas, \$9 on food, and \$7 on bait and tackle. Table 75 shows the average expenditure by visitors per access location. Visitors to the

Pee Dee Access Area on average spent the most on gas, while visitors to the Informal SR 1744 Site spent on average the most on food.

1.1.3 Resident Recreational Use Survey Results

Lake Tillery Residents

Waterfront lease holders/residents at Lake Tillery (n=1,874) were randomly selected to participate in a mail survey from May 2004 thru March 2005. For Lake Tillery, the Licensee received 2,106 responses to the mail survey. Overall, a consistent number of responses occurred throughout the survey period with a response rate between 42 and 55 percent, and approximately 8 to 10 percent of the total number of surveys completed each month (Table 76).

Blewett Falls Lake Residents

Waterfront lease holders/residents from Blewett Falls Lake (n=3) were selected to participate in a mail survey from May 2004 thru March 2005. The Licensee received 21 responses from residents throughout the course of the year. The greatest frequency of responses was in January, February, August and September, with the smallest response rate in July, October, and November. There were no responses from Blewett Falls Lake lease holders during December 2004 (Table 77).

1.1.3.1 Frequency of Time Spent at Lakefront Property

Lake Tillery Residents

As would be expected, residents report spending the highest number of days at the Lake during the high season months May to August. For the year, a majority of respondents (n=769; 38 percent) spent 22 to 31 days at Lake Tillery, followed by 28 percent spending one to seven days (n=570), and 14 percent of respondents overall spending eight to 14 days at the lake (Table 78).

Blewett Falls Lake Residents (Lease Holders)

Due to the small number of responses by residents at Blewett Falls Lake (n=20), it is difficult to get a good indication of the length of time spent at the Lake throughout the year (Table 79). There is a slight lean, however, towards residents spending most of their time at the Lake during the high season months, as is the case with the residents of Lake Tillery.

1.1.3.2 Group Size

Lake Tillery Residents

The majority of resident respondents reported a group size of one to five adults (94 percent), with an average of 2.5 adults reported (Table 80). Ninety-nine percent of all resident respondents reported one to five children per group, with a very low average number of children at less than one (.73) per group (Table 81).

Blewett Falls Lake

The majority of resident respondents at Blewett Falls Lake reported a group size of one to five adults (90 percent), with an average of two adults (Table 82). Sixty percent of respondents reported having zero children, with 40 percent reporting having between one and five children (Table 83). The average number of children was less than one (.7).

1.1.3.3 Recreational Activities

Lake Tillery Residents

The top eight activities most frequently mentioned by respondents were: 1) motor boating (54 percent); 2) wildlife viewing (39 percent); 3) swimming (34 percent); 4) bank fishing (33 percent), sunbathing (33 percent); 5) jet skiing (26 percent); 6) boat fishing (25 percent); 7) waterskiing (18 percent); and 8) picnicking (12 percent) (Table 84).

"Other" activities identified included yard work/maintenance, which accounted for over one-third of the responses. Relaxing, sitting on a pier and kayaking were also common activities. Additional activities mentioned were feeding the fish, playing games, stargazing, training/walking dog, mountain biking, and hunting Easter eggs.

Overall Lake Tillery residents spend a majority of their time wildlife viewing, with respondents reporting an overall average of eight days per month engaged in this activity. Motor boating was the next most frequent activity with respondents reporting an average of five days of motor boating per month. Swimming was popular, with an average of four days per month, followed by jet skiing and bank fishing each with an average of three reported days per month (Table 85).

Summary of comments on recreation activities by Lake Tillery residents:

Jet skis

- We enjoy our jet ski very much
- We used our jet ski every day the water level was up
- I hate these jet skis
- Jet skis interfere with all other lake activities
- There is a need to control jet skis!
- The river level too low for jet skis
- There are too many jet skis on the lake

Swimming

- Enjoy swimming all summer
- Cannot swim because of algae
- Kids swim often
- Poor swimming, due to grass growing on bottom
- Swim usually weekends

Boat fishing

- Fish every day the water level was up
- Fish every morning
- Did not fish when lake was down
- Need to restock striper and crappie

- Not too lucky.
- There is poor fishing
- Too crowded with boats
- Weather permitting

Bank fishing

- Fish for catfish
- Bank fish daily
- I dock fish
- Enjoy very much
- This is my favorite pastime
- I enjoy fishing off my pier
- Fun and relaxing.
- It is good-calm
- Good crappie fishing.
- The lake level low when temp warm
- Nearby lakes have a better fishing
- Need to restock lake
- No fish
- Bank fishing is not good
- Poor fishing overall
- The lake is too crowded with boats

Hunting

- I hunt for duck/goose
- I hunt ducks
- I hunt in Thicketing Creek
- I hunt at the lake house near farm
- I hunt other land
- Should be prohibited on recreational lakes due to danger posed to visitors and residents.
 This is an ongoing and growing problem.
- Waterfowl

■ Wildlife Viewing

- I always watch for birds, snakes, deer, etc.
- Amazing to see a bald eagle swoop and sweep a blue heron from eagle's waters.
 Disheartening to see the myriad of muskrats eating foliage.
- Anytime I happen to see any.
- Bird feeding and watching
- Birds, bees, night critters know it's Spring.
- Birds, muskrats; especially eagles and pileated woodpecker.
- Birds, squirrels, herons, turtles.
- Eagle, and other critters
- I enjoy very much
- I like fish feeding
- Is highly appreciated
- I enjoy seeing the great blue herons, kingfisher, mallards, Canada geese, Bluebirds, pileated woodpeckers
- Mallard hunting needs to be banned before they become extinct.
- Saw a bald eagle attack a great blue heron. WOW!
- We saw several muskrats, fish and ducks

- We sit in the AM & PM in my backyard with Bino's looking at eagles, ospreys, G. Blue herons and other birds
- Too many deer and squirrels! Feeding ducks and seagulls.
- Watch wildlife all the time.
- I enjoy watching & feeding seagulls
- We look at Morrow Mountain across the lake. We love Lake Tillery.

Blewett Falls Lake Residents

The most frequently mentioned activities participated in by residents at Blewett Falls Lake were wildlife viewing (81 percent), bank fishing (52 percent), picnicking (52 percent), boat fishing (48 percent), hiking (43 percent), motor boating and lake canoeing (33 percent), and river canoeing (29 percent) (Table 86).

Overall Blewett Falls Lake residents spend a majority of their time wildlife viewing, with respondents reporting an overall average of six days per month engaged in this activity. Respondents spent an average of five days per month doing "other" activities, which were specified as "living on the Lake and enjoying the Lake everyday." Bank fishing, picnicking, motor boating and hiking were the next most frequent activities with respondents reporting an average of two days per month participating in these activities (Table 87). There were no additional comments by residents of Blewett Falls Lake on recreational activities.

1.1.3.4 Conditions Interfering with the Recreation Experience of Residents

Lake Tillery Residents

■ Level of Concern for Crowded Conditions

Residents at Lake Tillery were asked to identify whether there were conditions that interfered with their recreation experience and if so, to indicate their level of concern (low, medium, or high) for the condition. With respect to crowded conditions on the lake, 45 percent (n=957) of respondents had no level of concern or did not address the question concerning conditions that interfered with their recreation experience. Thirty-two percent of respondents (n=676) expressed a low level of concern for crowding on the lake, while 17 percent expressed a medium level of concern and 6 percent expressed a high level of concern (Table 88).

To further explore resident's level of concern for crowded conditions on Lake Tillery, conditions were examined by month for those responding to this question (n=1238). The results indicated that generally, during off-season months (Jan-Mar and Oct-Dec) the majority of respondents (72 to 84 percent) had no level or low level of concern for crowded conditions. However, of those that did respond, during high season months (May-September), 47 to 57 percent of respondents expressed a medium to high level of concern for crowded conditions on Lake Tillery (Table 89).

■ Limited Access

Fifty-four percent (n=1132) of respondents did not express concern for limited access on Lake Tillery. Of those that did express concern, a majority of respondents, 39 percent (n=833) expressed

a low level of concern, with 5 and 2 percent submitting a medium to high level of concern respectively (Table 90).

■ Improper Disposal of Trash/Litter

Forty-six percent of respondents (n=973) did not express a level of concern with respect to improper disposal of trash or litter. Of those respondents that did express a level of concern (n=1,149), 26 percent of respondents on Lake Tillery expressed a low level of concern, while 16 percent expressed medium level of concern and 12 percent expressed a high level of concern (Table 91).

■ Lake Water Levels

Thirty-eight percent (n=806) of respondents did not express concern for lake water levels on Lake Tillery. Of those expressing a concern for water levels (n=1316), 29 percent had low level of concern, with 17 percent at medium level of concern, and 15 percent having a high level of concern (Table 92).

Blewett Falls Lake Residents

Residents of Blewett Falls Lake (n=21) were asked of those that have experienced conditions that interfered with their recreation experience, what was their level of concern for crowded conditions, limited access, and improper disposal of trash and litter.

■ Crowded Conditions

Blewett Falls Lake resident respondents (48 percent; n=10) generally did not express concern or had low level of concern for crowded conditions on the lake (Table 93). The results in Table 94 demonstrate the level of concern for crowded conditions by Blewett Falls Lake Residents per month. Overall, of those that had a response to the crowded conditions on Blewett Falls Lake, the level of concern was generally low each month, with only one respondent identifying a medium level of concern for May.

■ Limited Access

One-third of resident respondents did not express concern for limited access (n=7). Of those that did have some level of concern, 27 percent (n=6) expressed a low level of concern, one resident (5 percent) expressed a medium concern, and 33 percent (n=7) expressed a high level of concern for limited access on the lake (Table 95).

■ Improper Disposal of Trash/Litter

Approximately one half of resident respondents (48 percent; n=10) did not express concern for improper disposal of trash on Blewett Falls Lake. However, 24 percent (n=5) of respondents that did express a level of concern expressed a high level of concern, followed by 19 percent (n=4) expressing a low level of concern, and 10 percent (n=2) expressing a medium level of concern (Table 96).

■ Lake Water Levels

The majority of resident respondents (67 percent) expressed some concern over lake water levels at Blewett Falls Lake. Of those, 29 percent expressed a high level of concern, 19 percent expressed a medium level of concern, and 19 percent expressed a low level of concern (Table 97). Approximately one-third of respondents did not express any level of concern with lake water levels.

1.1.3.5 Use of Public Boat Launch Facility

Lake Tillery Residents

The majority of respondents did not indicate use of a public boat launch facility at Lake Tillery (83 percent) (Table 98). Of the total number of residents that did utilize a public boat launch facility (17 percent; n=368), 36 percent of those identified using Lilly's Bridge Access, 21 percent used the Swift Island Access, and 16 percent used Norwood Access Area (Table 99). In general, the amount of use by Tillery residents was relatively low at public boat launch facilities.

Blewett Falls Lake Residents

Almost half (52 percent) of respondents at Blewett Falls Lake indicated using a public boat launch facility (Table 100). Almost one-quarter (24 percent) of respondents identified using the Mountain Creek boat launch facility, while others identified using Anson County, Richmond County, and Blewett Falls boat launch facilities (Table 101).

1.1.3.6 Recreation Expenses

Lake Tillery Residents

The greatest expenditure by resident respondents on Lake Tillery was food (\$113,452), with a reported average of \$132 per month. Gasoline followed second, with a total residents spending of just over \$98,000 per year and an average of \$80 per month. Residents spent nearly \$17,000 on bait and tackle and approximately \$8,200 on use fees during 2004 to 2005 (Table 102).

Blewett Falls Lake Residents

The greatest expenditure by resident respondents on Blewett Falls Lake was food (\$698), with a reported average of \$37 per month. As with Lake Tillery, gasoline followed second, with residents spending \$530 per year, an average of \$28 per month (Table 103). Bait and tackle was the other major expense at Blewett Falls Lake, with residents spending an average of \$6 per month on bait and tackle.

1.1.4 Canoe Portage Survey Summary

A survey box with a survey questionnaire for canoeists was installed at a visible location near the take-out point. Progress Energy retrieved the information from the collection boxes and tabulated usage. A total of 40 groups completed the questionnaire.

1.1.4.1 Visitation Time of Day

Lake Tillery

The majority of respondents (n=6) to Lake Tillery Canoe Portage reported visitation during the latter part of the day, between 4:00 p.m. and 8:00 p.m., followed by morning use between 7:00 a.m. and 12:00 p.m. (n=2), with the least amount of use reported during the middle hours of the day (Table 104).

Blewett Falls Lake

The majority of respondents (n=11) to Blewett Falls Lake Canoe Portage reported visitation during the latter part of the day, between 4:00 p.m. and 8:00 p.m., followed by mid-day use between 12:00 p.m. and 4:00 p.m. (n=8), with the least amount of use reporting during the earlier hours of the day and the latter hours of the evening (Table 105).

1.1.4.2 Number of People in Groups and Monthly Visitation

Lake Tillery

Most of the respondents visiting the Lake Tillery Canoe Portage reported being in groups of two, with the greatest visitation occurring during the month of April (Table 106). There were a total of nine groups that responded to the survey at Lake Tillery Canoe Portage.

Blewett Falls Lake

Most of the respondents visiting the Blewett Falls Lake Canoe Portage reported being in groups of two (n=6), followed closely by groups of four (n=5), and groups of five (n=4). The greatest visitation occurred during the month of April, and a total of 24 groups responded to the canoe portage survey at Blewett Falls Lake (Table 107).

1.1.4.3 Summary of Put-in and Take-out Locations

Lake Tillery

The majority of respondents at Lake Tillery did not identify their put-in or take-out locations (n=8). One respondent identified putting-in at Lilly's Bridge and taking-out at Cook's Marina (Table 108).

Blewett Falls Lake

As with Lake Tillery, the majority of respondents at Blewett Falls Lake did not identify their put-in or take-out locations. Of those that did identify their location, most canoeists utilized the same location as a put-in and take-out site. For example, at Anson, the landing downstream of the dam, Mountain Creek, and Pee Dee Access Area, people launched and took out their canoes in the same area. The few that traveled to a different take-out site were those launching above the lake, and 'close to the river' (Table 109).

1.1.4.4 Ease of Portage

The majority of the respondents of the portage survey found portage to be "easy" (n=15) or "acceptable" (n=11) (Table 110).

Lake Tillery

Of seven responses on the ease of the Lake Tillery portage, four persons felt it was easy, with one finding it "acceptable", and two finding the portage "difficult" (Table 111).

Blewett Falls Lake

The majority of respondents at Blewett Falls Lake responded that it was "easy" (n=9) or "acceptable" (n=9), with a small number who found the portage difficult (n=4) (Table 112).

1.1.4.5 Comments by Canoe Portage Visitors

Comments referencing the Lake Tillery Canoe Portage centered around two themes, the environment and need for facilities or upgrade of facilities. Generally, people feel trash is a problem at both lakes; would like to see more camping at Blewett, and would like to see a healthy fishery maintained. The following are comments summarized by site:

Lake Tillery

- Lake Tillery Environment:
 - We need more fish
 - Enforce no pollution, too much trash near big walk in sign.
 - Need to do something about the trash.
- Lake Tillery Facilities:
 - Would like an easier walkway to the tailrace area on the Stanley side
 - We would like fishing from the dam

Blewett Falls Lake

- Blewett Falls Lake Environment:
 - Logs everywhere
 - Please keep our dam
 - Need trash cans
 - Water level is up and down fish are dying because of constant changes in water level
 - Need a clean lake to swim in
- Blewett Falls Lake Facilities:
 - Need grills and camping area
 - Put chairs and barbeque grills
 - There needs to be more camping areas available not only for people with watercraft, but for people without
 - Would be better to put a way to walk in and a playground for the kids.
- Unknown Location Comments:
 - Too much trash near big walking sign. Enforce no polluting!

- Picnic tables and port-a-johns would be nice, a little more policing to discourage theft from parked vehicles.
- Very enjoyable to view the Lake.

1.1.5 Tailrace Fishing Survey

A survey of fishermen utilizing the public tailrace fishing areas was conducted just downstream of Tillery and Blewett Falls dams. A survey box containing survey questionnaires was installed at a visible location near the tailrace fishing areas. Progress Energy employees retrieved the information from the collection boxes and tabulated use of the fishing areas and documented recreational fishing success. Ninety-one respondents completed the Tailrace fishing survey, with 47 of the respondents from the Lake Tillery tailrace, and 38 from the Blewett Falls Lake tailrace (Table 113).

Lake Tillery

The majority of the respondents from Lake Tillery completed the survey between 6:00 a.m. and 10:00 a.m. (30 percent). Twenty-six percent of the surveys were completed between 2:00 p.m. and 6:00 p.m. (Table 114). Several respondents (21 percent) indicated that weather was "clear and sunny" on the day they visited Lake Tillery, with 19 percent fishing in cloudy and overcast conditions, and 13 percent experiencing hot and hazy conditions (Table 115).

Blewett Falls Lake

Respondents at Blewett Falls Lake completed the survey during various times of the day, from early morning (6:00 a.m.) to late evening (10:00 p.m.) (Table 116). The majority of surveys were completed between 10:00 a.m. and 10:00 p.m. (76 percent). A large proportion (37 percent) of respondents indicated that the weather was 'clear and sunny' on the day they visited Blewett Falls Lake, with 24 percent fishing in cloudy and overcast conditions (Table 117).

1.1.5.1 Tailrace Visitor Use Characteristics

Lake Tillery

The Tailrace fishing survey addressed socio-demographic questions including: age, gender, and group size. The Lake Tillery sample was dominated by male participants, consisting of 38 (81 percent) males, and nine (19 percent) females (Table 118). Approximately 77 percent of the sample was 50 years of age or younger, with a fairly even distribution between the ages of 22 to 50 (Table 120). (Note: The age related data are presented in categories to more efficiently represent the characteristics of the respondents.) Individuals fishing at the Lake Tillery tailrace generally visit in small groups. A majority of respondents (62 percent) reported being in groups of one to two persons. Nine percent of respondents reported a group of three, and approximately 19 percent reported individual groups ranging from four to a maximum of 27 in one group (Table 120).

Blewett Falls Lake

The Blewett Falls Lake sample was also dominated by male participants, consisting of 33 (87 percent) males, and three (8 percent) females (Table 121). Approximately 74 percent of the sample was 50 years of age or younger, with 10 respondents between the ages of 22 to 30, seven

between the ages of 31 to 40, and six between the ages of 31 to 40 (Table 122). Individuals fishing at the Blewett Falls Lake tailrace generally visit in small groups. A majority of respondents (61 percent) reported being in groups of one to three persons. Eight percent of respondents reported a group of four, and approximately 16 percent reported individual groups ranging from five to a maximum of 16 in two groups (Table 123).

1.1.5.2 Tailrace Fishing Frequency and Use Patterns

Lake Tillery

The majority of respondents fished at the Lake Tillery tailrace one to two days per month (32 percent), with 30 percent fishing greater than 10 times per month (Table 124). The majority of respondents fish the tailrace during early morning (62 percent). Approximately 13 percent fish from late morning to early after noon, with a number of respondents fishing late afternoon to early evening (21 percent) (Table 125). Forty-nine percent of respondents typically stay two to four hours fishing at the tailrace, with nearly 36 percent spending greater than five hours (Table 126).

Blewett Falls Lake

The majority of respondents fished at the Blewett Falls Lake tailrace greater than 10 times per month (34 percent), with 42 percent fishing between three and 10 times per month (Table 127). The majority of respondents fished the tailrace either early morning (26 percent) or late afternoon (26 percent). Approximately 29 percent fish from late morning until early afternoon (Table 128). Thirty-seven percent of respondents typically stay two to four hours fishing at Blewett Falls tailrace, with approximately 55 percent spending greater than five hours (Table 129).

1.1.5.3 Tailrace Angler Fishing Preference and Success

Lake Tillery

Anglers to the tailrace were asked what type of fish they are fishing for. The majority of respondents at Lake Tillery tailrace stated they were fishing for stripers (33 percent), followed by catfish (22 percent), "anything" (12 percent) and white bass (10 percent) (Table 130). Anglers were split between catching and not catching fish, with approximately half of respondents successful (49 percent) (Table 131). Of those that did catch fish, 33 percent of respondents indicated they had caught stripers. Twenty-one percent of respondents indicated that they had caught catfish, and 13 percent had caught gar. The range and size of fish caught are documented in Table 132.

Blewett Falls Lake

The majority of respondents at Blewett Falls Lake tailrace stated they were fishing for catfish (39 percent), followed by stripers (17 percent), 'anything' (13 percent) and bass (11 percent) (Table 133). Anglers were split between catching and not catching fish, with just under half of respondents successful (45 percent) (Table 134). Of those that did catch fish, 39 percent of respondents indicated they had caught catfish. Thirteen percent of respondents indicated that they had caught stripers, and 13 percent had caught crappie. The range and size of fish caught are documented in Table 135.

1.2 Recreation Carrying Capacity

Carrying capacity is an "umbrella" concept used to address overuse or visitor-impact issues; it generally refers to the maximum use level that can occur in an area without degrading biophysical resources or recreation experiences. As with other resource management issues, estimating the capacity for a particular resource area depends on management objectives and more specific standards that define impact acceptability, both requiring evaluative judgments (Shelby and Heberlein 1986).

With respect to the Recreation Study Plan, stakeholders identified two types of capacities to review in recreation settings at Lake Tillery and Blewett Falls Lake:

■ **Physical capacity** which referred to the space needed to engage in a particular recreation activity. Assessing physical capacities conceivably make sense if there are spatial constraints. This calculation sets an upper bound by explaining how many can actually "fit" in an area.

There are different methods to determine a theoretical physical capacity at a lake. The method identified in the RWG was a methodology developed by the Bureau of Outdoor Recreation (BOR). Essentially this involves looking at the total surface area of the lake and applying a ratio based on user type. Using this methodology, Progress Energy estimated physical carrying capacity of each lake.

Social carrying capacity refers to impacts that impair or alter human experiences in recreation settings. Standards are required to define how much interaction, competition, conflict, or signs of use are acceptable for a given type of recreation experience. Impact indicators relative to Lake Tillery and Blewett Falls Lake include perceived crowding at access points and on the lake surface.

The importance of understanding social carrying capacity (i.e., people's perceptions of crowding at the lakes and facilities) is also discussed within the context of recreation use. In addition, a review of the boating accidents on Lake Tillery was conducted.

In addition, to assist in understanding carrying capacity issues relative to use at the lakes, facility capacity was also examined.

■ Facility capacity refers to the number of people or groups that a developed site or facility is designed to handle. Facility capacity is generally associated with site planning rather than larger areas as in this study. Facility capacities, however, can interact with other capacity issues, by attracting and concentrating use. This study reviewed existing parking facility capacities at access areas (Lake Tillery, Table 136; Blewett Falls Lake, Table 137).

1.2.1 Physical Capacity

Based on the BOR methodology, the physical capacity (theoretically) for Lake Tillery is 633 boats at- one-time, assuming a density of nine boats per acre for all boating types. Based on average visitor use estimates from Lake Tillery for the April 2004 to March 2005 time period, the following steps were used to estimate the estimated number of boats on the lake during one day on Lake Tillery.

Estimating visitor lake surface physical capacity:

- 1. The average daily use utilizing the spot counts of vehicles with boat or jet ski trailer was calculated for each type of day (i.e., weekend/holiday, weekday) for an estimated total number of watercraft;
- 2. For Lake Tillery, resident estimates were added to visitor spot counts for a total lake surface use estimate by type of day.
- 3. Visitor boat use was based on a ranged calculated from the type of day (weekday, weekend, holiday (see Table 140).

To understand the resident contribution to the number of boats on Lake Tillery during a day, the following assumptions were made:

- First, the number of respondents that said they participated in water skiing also said that they motor boated (97 percent), therefore we assume that those that water ski are accounted for in the motor boating response for residents;
- The number of respondents who said they participated in boat fishing also said that they motor boated (88 percent); therefore, we assume that those that boat fishing are 88 percent accounted for in the motor boating responses for residents;
- Based on the results of the survey, 22 percent of those boating use a public launch site, therefore we assume that 22 percent of the respondents have been accounted for during the daily spot counts;
- Watercraft estimates were made for each month in order to provide a range of estimated use throughout the year.
- The sources used for this estimate assume use from personal/private dock access and 22 percent public launch use. While the resident survey does ask whether residents use a launch site, it is unclear how many boats are from marinas (resident or non-resident) and private access areas.
- Based on the resident survey, it is also unclear how long a boater spends on the lake and/or whether or not the boating behavior pattern of residents differs from that of visitors (i.e., days of the week spent on the lake, time of day, number of trips on the lake per day); therefore the estimated calculations simply provide an estimate for the number of boats/watercraft on the lake on a given day. Theoretically, these numbers may be spread over the course of 8 to 12 hours of daylight depending on the time of year (see Tables 141 and 142).

Lake surface use per day on Lake Tillery is greatest in the summer and peaked with an estimated maximum use of 845 boaters on the lake over a course of a single day (July 4) (see Table 140).

Blewett Falls Lake

The physical carrying capacity based on BOR methodology, also assuming a density of nine boats per acre for Blewett Falls lake is 318 boats. The lake can experience changes (approximately 3 ft) in water surface elevation on a daily basis. The resulting capacity at Blewett Falls Lake decreases to 259 boats when the water has been lowered by 3 ft.

Estimating visitor lake surface physical capacity:

- 1. The average daily use utilizing the spot counts of vehicles with boat or Jetski trailer was calculated for each type of day (i.e. weekend/holiday, weekday) for an estimated total number of watercraft;
- 2. Due to the very limited number of residents on Blewett Falls Lake, resident estimates were not added to visitor spot counts for a total lake surface use estimate by type of day.
- 3. Visitor boat use was based on a ranged calculated from the type of day (weekday, weekend, holiday (see Table 142).

Lake surface use per day on Blewett Falls Lake also peaks during the summer months, with an estimated maximum use of 80 boaters on the lake over the course of a single day. These estimates were based on spot counts of vehicles with boat trailers three times per day over the course of one year (see Table 142).

1.2.2 Facility Capacity: Public Parking Access Areas

The facility capacity for each access area on Lake Tillery and Blewett Falls Lake was assessed. The following steps and results describe the facility capacity of public and private access areas for each lake.

1) Description of the setting for each facility surveyed based on existing information, reconnaissance, and facility design.

Lake Tillery

Norwood Access

The access at Norwood is a gravel parking lot for vehicle parking and for vehicles with boat trailer parking. The boat ramp is two lanes with a wooden dock that can accommodate up to three boats at a time. The shoreline around the cove provides access to bank fishing and is in fair condition. All other facilities are in good condition (Table 144).

■ SR 1740 and 1745

The access at SR 1740 and 1745 has a one lane primitive boat ramp in poor condition. The area has excessive litter and over all is in fair condition (Table 145).

■ Stony Mountain

The Stony Mountain Access has a two-lane paved boat ramp facility in good condition, with a wooden dock that can accommodate up to 3 boats. Bank fishing access is in fair condition, with excessive litter sighted as a primary problem. There are primitive campground facilities which accommodate 5-10 sites and are in poor condition with excessive litter. The multi-use trail is also reported to be in good condition with the exception of excessive littering (Table 146).

■ Swift Island

The Swift Island Access has a 4 lane paved boat ramp, wooden dock which can accommodate up to 8 to 10 boats, limited shoreline fishing, and gravel parking facilities. The facilities at Swift Island are in good condition (Table 147).

■ Lilly's Bridge

The access at Lilly's Bridge includes a two-lane paved boat ramp, wood dock accommodating up to six boats, old bridge and pier fishing access, limited bank fishing near boat ramps, and gravel parking. All facilities appear to be in good condition (Table 148).

■ Informal Access-TW

At the Informal Access/Tailrace, the one-lane primitive boat launch is in poor condition. The shoreline fishing access is generally good, with a slight litter problem. The secondary gravel/dirt access road to the water is very steep and in fair condition. The vehicle/boat trailer parking is gravel and in good condition (Table 149).

■ Tillery Canoe Portage

The Tillery Canoe Portage has shoreline fishing access for 25 to 30 anglers. Shoreline access is in good condition with some litter. The canoe portage trail and secondary access road are both in fair condition. The vehicle parking area is dirt and is fair condition with excessive littering (Table 150).

Blewett Falls Lake

■ Highway 74

The Highway 74 site at Blewett Falls Lake can accommodate 125 vehicles and 50 boat trailers in the gravel and grass parking lot. There is a one-lane concrete boat ramp, and a small wooden dock that can accommodate two boats. There are small clearings on the bank used as shoreline fishing access for up to five people which is in fair condition, and there is a two-lane gravel road into the access site. Overall the access site is in good condition (Table 151).

■ Informal Tailrace Access

At the Informal Access – Tailrace site there is one concrete and two dirt one-lane boat ramps, each in fair to poor condition. There is capacity for 50 vehicles and 20 boat trailers in the gravel and dirt parking lot which is in fair condition with some erosion damage. There are some clearings along the shoreline which provide fishing access for 20 to 25 people, and there is a swimming beach in fair condition which becomes exposed at low water (Table 152).

■ Blewett Falls Canoe Portage

The Blewett Falls Canoe Portage access site is generally in poor to fair condition with excessive litter and holes in the access roads and parking areas. The site has parking for 20 vehicle and eight boat trailers in a cul-de-sac and small clearing off the gravel access road. There is a small beach

around the portage cove used for swimming, and the shoreline is used for fishing for up to 20 people (Table 153).

■ Grassy Islands Access Area

The Grassy Islands Access Area has a one-lane concrete boat ramp in fair condition, a grassy area along the bank for fishing access, a two-lane gravel access road, and a gravel parking lot for up to 30 vehicles and 12 boat trailers. Generally, the access area is in good condition (Table 154).

■ Highway 109

The access area at Highway 109 includes a one-lane concrete boat ramp, a wooden boat dock with metal grate for up to three boats, an open, grassy parking area for up to 57 vehicles or 25 boat trailers, and a one-lane dirt access road. Generally the access area is in good condition, except for the boat ramp which is in fair condition (Table 155).

■ Informal SR 1744

The access at Informal SR 1744 Site has a one-lane, informal/unpaved boat ramp in fair condition, a swimming beach which is exposed when the water is low, and a grassy and dirt open parking area that can accommodate 25 vehicles and 10 boat trailers. The parking area is in fair condition, and there is excessive litter along the shoreline fishing and shade trees/grass areas (Table 156).

■ Pee Dee Access Area

There are four two-lane boat ramps at the Pee Dee Access Area, all in good condition. There are three boat docks that can accommodate 6 to 10 boats, and there is shoreline fishing banks accessible from the lot. The parking areas are gravel with cable dividers and can accommodate 95 vehicles and 70 boat trailers (Table 157).

■ Blewett Access Area/Power Plant

The Blewett Tailwater Access Areahas a private, one-lane gravel boat ramp in fair condition used only by Progress Energy, a concrete fishing pier, approximately 100 yards of shoreline fishing access, and a paved parking lot. The access area is generally in good condition, with some litter at the pier, along the shoreline, and the shady area along the river (Table 158).

2) The indicator relevant variable utilized was the "percent occupancy" (e.g., the number of parking spaces that are being used divided by the total number that exists).

The next step in understanding facility capacity was to understand the relevant occupancy of parking areas and the relationship to visitor use. To understand facility capacity at each access area, spot counts were utilized to calculate the maximum number of vehicles per weekend day, week day, and holiday for each access area by month. The results of these spot counts indicate that public access areas in general reach their maximum capacity during very specific times of year. Generally, estimates were calculated based on dimensions of an access parking area and that a vehicle with a boat trailer took up two to three times more space than an individual vehicle. Therefore, the capacity for vehicles with boat trailers was less than the capacity for individual vehicles. The number of

vehicles and vehicles with boat trailers at each facility was counted on random days, three times per day over the course of 12 months. These values were averaged and used to calculate the percent of capacity reached at each facility. In order to obtain an estimate measurement of facility capacity reached, the number of vehicles with boat trailers was multiplied by the ratio of vehicles to vehicles with boat trailers actually calculated for the area under study. For example, if vehicle capacity at a facility is 100, and vehicle with boat trailer capacity is 50, the ratio between the two vehicles capacities is 2:1. Continuing with the example, if there were five individual vehicles at the facility and ten vehicles with boat trailers, the number of vehicles with boat trailers (10) was multiplied by two and this value was added to the number of individual vehicles (5) to get a total use value of 25. Therefore, capacity reached at the facility was 25 percent (if vehicle capacity = 100), as opposed to 15 percent if the ratio between the facility capacities for the two vehicles was not taken into consideration. Tables 137 and 138 depict facility capacity by monthly use and type of day.

When comparing occupancy levels at access areas with standards to assess whether existing or projected use levels are likely to be "below capacity," "approaching capacity," "at capacity," or "over capacity."

Lake Tillery

The Norwood access exceeded facility capacity levels with respect to vehicle and vehicle with boat trailer parking on three occasions, these being fishing weekend in April (143 percent), weekend in June (113 percent), and 4th of July holiday (130 percent). Table 136 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, Norwood reaches above 50 percent capacity during July weekend (63 percent) and August weekend (59 percent), and almost 50 percent capacity Labor Day holiday in September. The rest of the year, facility capacity at Norwood is below 50 percent.

The Stony Mountain access exceeded facility capacity levels with respect to vehicle and vehicle with boat trailer parking during April fishing weekend (110 percent). Table 137 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, Stony Mountain reaches greater than 50 percent capacity on July weekend (84 percent), with the rest of the year reaching less than 50 percent of facility capacity.

With respect to capacity, Swift Island does not exceed facility capacity levels with respect to vehicle and vehicle with boat trailer parking. Table 14 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, Swift Island reaches the greatest capacity (65 percent) once a year on an April fishing weekend. The rest of the year is less than 50 percent of parking facility capacity.

Lilly's Bridge access rarely approached facility capacity levels with respect to vehicle and vehicle with boat trailer parking. Table 137 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, Lilly's Bridge access reaches the greatest capacity (83 percent) once a year on July 4 weekend.

Tillery Access-SR 1740/1745 did not approach facility capacity levels with respect to vehicle and vehicle with boat trailer parking. Table 137 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, Tillery Access reached the greatest capacity (53 percent) during April weekends. June weekends were estimated at 37 percent capacity, October weekends

were estimated at 33 percent capacity, while during Memorial Day holiday, facility capacity reached 30 percent. The rest of the year reached less than 30 percent of parking facility capacity.

The Tillery Canoe Portage approached an estimated facility capacity level during the Memorial Day weekend end, with an estimated of 65 percent of maximum capacity. Table 137 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, the Tillery Canoe Portage reached 30 percent of capacity during May weekdays. July 4 weekend was estimated at 35 percent of capacity, with the rest of the year reaching less than 30 percent of parking facility capacity.

With respect to facility capacity, the Informal Access Area exceeded its capacity level once during the weekday in October with 124 percent capacity. The rest of the estimates demonstrate less than 50 percent capacity, with most months between 20 and 50 percent capacity (Table 137).

Blewett Falls Lake

Generally, on an annual basis, parking capacity levels at Blewett Falls Access areas are seldom reached or exceeded. Some access areas experienced increased visitation during April fishing weekends, Memorial Day weekend in May, July weekdays and the 4th of July holiday. Grassy Islands Access Area appears to have reached facility capacity during the April fishing weekends, and slightly exceeded capacity during Memorial Day weekend.

The Informal Access facility reached 50 percent of capacity on two occasions throughout the year, these being the fishing weekend in April (52 percent) and May weekday (52 percent). Throughout the remainder of the year, facility capacity was generally between 15 and 40 percent during the warmer months, and below 10 percent during the colder months (Table 138).

The estimated facility capacity for the Blewett Falls Canoe Portage, exceeded capacity on two occasions throughout the year, the average April weekday (153 percent) and the Memorial Day holiday in May (113 percent). Other times where the facility approached maximum capacity were the July 4 holiday (90 percent), June weekend (70 percent), April fishing weekend (63 percent), and August weekend (63 percent). For the remainder of the year, the facility generally had a capacity of 20 percent or less (Table 138).

For the Grassy Islands Access, there were three occasions throughout the year where the estimated facility capacity was exceeded. These were the Memorial Day holiday in May (155 percent), the fishing weekend in April (153 percent), and July weekday (117 percent). Additional occasions where capacity was greater than 50 percent were May weekday (85 percent), 4th of July holiday (62 percent), July weekend (58 percent), November weekend (57 percent), and May weekend (50 percent). Throughout the remainder of the year, capacity levels were less than 50 percent (Table 138).

The estimated facility capacity at SR 1744 reached 50 percent capacity or greater on numerous occasions throughout the year. Over 100 percent capacity was reached on April weekday (110 percent) and May weekend (118 percent), with 84 percent capacity reached April fishing weekend, 80 percent June weekend, 80 percent July 4 holiday, 70 percent July weekend, 66 percent July weekday, 58 percent May weekday, and 54 percent on the Memorial Day holiday in May. The remainder of the capacity reached throughout the year was 28 percent or less (Table 138).

There were six occasions where the Pee Dee Access exceeded the estimated maximum capacity; July 4 holiday (135 percent), April weekend (133 percent), July weekday (131 percent), August weekend (129 percent), June weekend (124 percent), and May weekend (113 percent). The facility reached 78 percent capacity April weekday, 72 percent capacity July weekend, and 63 percent May weekday. The Memorial Day holiday in May was estimated at 44 percent capacity, with the remainder of the year reaching 28 percent capacity or less (Table 138).

The estimated facility capacity at the Blewett Access was not greater than 38 percent capacity throughout the entire year. An estimated capacity of 38 percent was reached Labor Day holiday in September, with 34 percent in July weekend, 30 percent in May weekday, and 30 percent in July weekday (Table 138).

■ Lake Surface Capacity

The spot count observations provide some of the most useful results. This portion of the study was designed to represent the differing use conditions throughout the year. The results lead to several conclusions regarding the capacity evaluation. First, as expected, boating use levels vary widely throughout the year and are different for weekdays, weekends, and holidays. Even the peak use levels observed on the summer holidays and weekends and April fishing weekends seem well below the physical capacity of the lake. The highest levels observed were about one-half of both the facility capacity and the BOR-based physical capacity. By comparison, the access facilities at most lakes with serious boating capacity problems are filled to the maximum (or beyond) for most or all of the summer weekends, and typically show densities much higher than the BOR standards (Tables 141 and 143).

1.2.3 Social Capacity

Crowding is a negative evaluation of density or encounters; it involves a value judgment about the specified density number. To emphasize the evaluative nature of the concept, the term perceived crowding is often used.

For the purpose of clarity, the term crowding should not be substituted for high density or large numbers of people. Using this term confuses the objective impacts of larger numbers of people with the subjective evaluation of those impacts. Perceived crowding combines descriptive information (the density level experienced by the individual) with evaluative information (the individual's negative evaluation of that density or encounter level). When people evaluate an area as crowded, they have at least implicitly compared the condition they experienced (the impacts) with their perception of what is acceptable (their standards). If they conclude that the area is crowded, the existing conditions exceed their definition of a standard (one criterion for an area being over capacity).

An assessment of crowding was completed for each reservoir, focusing on the water surface and shoreline. Major steps in the assessments included:

1. A description of settings for each reservoir based on existing information, reconnaissance, and facility design.

2. Specifying indicator variables related to important social conditions for Lake Tillery and Blewett Lake Falls included: perceived crowding at access points and on the lake and comments by respondents on conditions that may have interfered with or presented conflict in their recreation experience;

To understand indicator variables related to important social conditions, visitors and residents were asked to express their level of concern for crowded conditions (low, medium, or high); and visitors were also asked their perception of 'how crowded' the lake was and the access point to the lake. The results of the survey demonstrated that crowding was not an issue at either Lake Tillery or Blewett Falls Lake for visitors and residents.

The results of the visitor and resident survey and spot counts lead to the conclusion that both lakes currently do not experience social capacity problems. To begin, the visitor and resident survey results related to crowding and other potential impacts of overuse support the conclusion that social capacity at Lake Tillery (Tables 31, 32 49, 50, 89, and 90) and Blewett Falls Lake is at relatively low levels (Tables 41, 42, 53, 54, 94, and 95). This conclusion is based on the fact that perceived crowding is the most commonly used indicator of social capacity problems and relatively few people at Lake Tillery expressed much concern with levels of crowding on the lake.

Table 139 lists the significant relationships between estimated boating density for Lake Tillery and crowding variables. The relationship between the estimated boating density and perceived crowding was significant. Visitors were most likely to report level of concern with crowding under medium, not high, use conditions (Table 139). Further, even under the highest use conditions, less than 10 percent of the respondents considered the crowding unacceptable. Open-ended responses likewise did not center on crowding. Based on the results of the visitor survey, Lake Tillery appears to be an un-crowded lake.

Table 140 addresses the significant relationships between crowding and density variables for Blewett Falls Lake. With respect to visitor's perceptions of crowding, utilizing all three crowding variables, the relationships between crowding variables and boat density was significant. Results indicated that under the highest use conditions, the majority of respondents had a low level of concern with respect to crowding interfering with their recreation experience. Additionally, the majority of respondents perceived the lake "not crowded" or "acceptable" during low to peak estimated boat densities. A similar result occurred with respect to visitor's perceptions of crowding at the access points. The majority of respondents perceived the access points, even at estimated peak boating levels, as "not crowded" or "acceptable."

Progress Energy performed a survey of boater use observed just downstream of each development. Table 158 provides the results of these observations.

Table 1 Lake Tillery estimated average visitor use estimate 2004-2005.

				Total V	isitor Us	se Estimat	te per Y	ear				
Month	Norwood Access Area	Stony Mountain Access	Swift Island Access	Lilly's Bridge Access	Informal SR 1740 & 1745	Mountain State Park	Tillery Canoe Portage*	Twin Harbor*	Holiday Shores*	Woodrun*	Carolina Forest	Informal Access Area
Jan-05	130	227	156	149	11	227	0	0	21	84	42	42
Feb-05	162	29	297	166	14	92	13	8	0	29	21	89
Mar-05	334	145	652	242	28	358	5	48	75	37	84	129
Apr-04	638	1,237	2,419	311	145	1,309	100	507	178	293	298	209
May-04	616	390	3,120	441	51	1,242	236	658	165	297	558	286
Jun-04	509	912	2,241	651	62	1,191	115	792	188	439	407	279
Jul-04	802	718	2,634	642	182	1,259	52	1,219	224	379	562	226
Aug-04	419	1,017	1,097	288	32	979	54	343	91	292	255	199
Sep-04	337	209	713	225	43	555	61	193	31	113	81	132
Oct-04	416	170	1,485	388	55	925	44	139	37	109	127	182
Nov-04	234	115	654	327	34	1,121	28	63	38	21	66	267
Dec-04	137	43	635	165	0	127	20	59	8	11	21	136
Total	4,734	5,212	16,103	3,995	657	9,385	728	4,029	1,056	2,104	2,522	2,176

^{*}Private sites utilized by residents.

 Table 2
 Blewett Falls Lake estimated average visitor use estimate 2004-2005.

Month	Blewett Falls Access-TW	Pee Dee Access Area	Grassy Islands Access Area	Blewett Falls Canoe Portage	U.S. Highway 74 Site	Informal Tailrace Access	Informal SR 1744 Site	Highway 109
Jan-05	34	49	57	10	53	11	0	17
Feb-05	49	51	20	8	25	11	29	0
Mar-05	148	253	85	19	67	142	21	21
Apr-04	390	1,847	292	218	144	323	610	65
May-04	467	1,993	266	197	158	353	664	58
Jun-04	475	1,034	96	164	82	162	262	88
Jul-04	359	1,639	178	100	59	113	525	141
Aug-04	329	993	106	109	90	98	96	32
Sep-04	174	290	42	108	40	116	50	29
Oct-04	245	339	69	30	63	111	50	14
Nov-04	123	134	133	45	148	12	16	5
Dec-04	48	113	67	15	51	37	0	39
Total	2,840	8,733	1,410	1,024	979	1,490	2,324	509

Table 3 Socio-demographic profile of respondents at Lake Tillery.

Table 5	Socio-demographic profile (n respondents at Lake	e imery.
Socio	o-demographic Characteristics	Frequency	Percentage
Gender (n ¹ =1	152)		
	Female	179	15.6
	Male	970	84.4
Age (n=1152)		
	Low-20	65	5.6
	21-30	159	13.8
	31-40	298	25.9
	41-50	297	25.8
	51-60	194	16.8
	61-70	116	10.1
	71and above	23	2.0
State of Resid	dence (n=1118)		
	North Carolina	1,129	97.4
	South Carolina	19	1.6
	Florida	2	0.2
	West Virginia	2	0.2
	New Jersey	1	0.1
	New Hampshire	1	0.1
	Illinois	1	0.1
	Georgia	1	0.1
	Virginia	1	0.1
	Wisconsin	1	0.1

The total number of respondents may vary because some individuals did not answer all of the questions.

Table 4 Lake Tillery - gender by location.

Survey Location	Count	Gende	r	Total
Survey Location	Count	Female	Male	Total
	Count	9	98	107
Norwood Access Area	% Location	8.4	91.6	100.0
Notwood Access Area	% within Gender	5.0	10.1	9.3
	% of Total	0.8	8.5	9.3
	Count	10	79	89
Stony Mountain Access	% Location	11.2	88.8	100.0
Stony Mountain Access	% within Gender	5.6	8.1	7.7
	% of Total	0.9	6.9	7.7
	Count	46	219	265
Conife Inland Annua	% Location	17.4	82.6	100.0
Swift Island Access	% within Gender	25.7	22.6	23.1
	% of Total	4.0	19.1	23.1
	Count	25	185	210
I'll I Do'l . A	% Location	11.9	88.1	100.0
Lilly's Bridge Access	% within Gender	14.0	19.1	18.3
	% of Total	2.2	16.1	18.3
	Count	9	31	40
r. C 1 CD 1740 0 CD 1745	% Location	22.5	77.5	100.0
Informal SR 1740 & SR 1745	% within Gender	5.0	3.2	3.5
	% of Total	0.8	2.7	3.5
	Count	66	230	296
M	% Location	22.3	77.7	100.0
Morrow Mountain State Park	% within Gender	36.9	23.7	25.8
	% of Total	5.7	20.0	25.8
	Count	2	36	38
Till G D	% Location	5.3	94.7	100.0
Tillery Canoe Portage	% within Gender	1.1	3.7	3.3
	% of Total	0.2	3.1	3.3
	Count	10	90	100
Informal Tailwater Access	% Location	10.0	90.0	100.0
Area	% within Gender	5.6	9.3	8.7
	% of Total	0.9	7.8	8.7
	Count	2	1	3
T	% Location	66.7	33.3	100.0
Location not identified	% within Gender	1.1	0.1	0.3
	% of Total	0.2	0.1	0.3
	Count	179	969	1,149
	% Location	15.6	84.3	100.0
Total (n=1151)	% within Gender	100.0	100.0	100.0
		2000	2000	1000

Table 5 Socio-demographic profile of respondents at Blewett Falls Lake.

1 abit 3	Socio-demographic profile	of respondents at Diewett Fa	iis Lake.
Socio-Demo	ographic Characteristics	Frequency	Percentage
Gender (n=6	567)		
	Female	99	14.8
	Male	568	85.2
Age (n=637))		
	Low-20	24	3.8
	21-30	106	16.6
	31-40	137	21.5
	41-50	153	24.0
	51-60	116	18.2
	61-70	81	12.7
	71 and above	20	3.1
State of Resi	idence (n=628)		
	North Carolina	650	97.5
	South Carolina	13	1.9
	Virginia	2	.3
	Florida	1	.1
	Alabama	1	.1

Table 6 Blewett Falls Lake - gender by location.

Survey Location	Count	Geno	ler	Total
Survey Location	Count	Female	Male	1 Otai
	Count	17	114	131 100.0 19.8 19.8 19.8 161 100.0 24.4 24.4 61 100.0 9.2 9.2 71 100.0 10.7 10.7 49.0 100.0 7.4 7.4 95.0 100.0 14.4 14.4 176.0 100.0 11.5 11.5 17.0 100.0 2.6 2.6 661.0
Blewett Tailwater Access	% Location	13.0	87.0	100.0
Area	% within Gender	17.3	20.2	19.8
	% of Total	2.6	17.2	19.8
	Count	23	138	161
D., D., A.,,, A.,,	% Location	14.3	85.7	100.0
Pee Dee Access Area	% within Gender	23.5	24.5	24.4
	% of Total	3.5	20.9	24.4
	Count	8	53	61
Canagary Islanda A A	% Location	13.1	86.9	100.0
Grassy Islands Access Area	% within Gender	8.2	9.4	9.2
	% of Total	1.2	8.0	9.2
	Count	17	54	71
Blewett Falls Canoe Portage	% Location	23.9	76.1	100.0
	% within Gender	17.3	9.6	10.7
	% of Total	2.6	8.2	10.7
	Count	4.0	45.0	49.0
II C II: -1 74 C:4-	% Location	8.2	91.8	100.0
U.S. Highway 74 Site	% within Gender	4.1	8.0	7.4
	% of Total	0.6	6.8	7.4
	Count	6.0	89.0	95.0
T. C 1770 '1	% Location	6.3	93.7	100.0
Informal Tailrace Access	% within Gender	6.1	15.8	14.4
	% of Total	0.9	13.5	14.4
	Count	20.0	56.0	76.0
I. C 1 CD 1744 C'4	% Location	26.3	73.7	100.0
Informal SR 1744 Site	% within Gender	20.4	9.9	11.5
	% of Total	3.0	8.5	131 100.0 19.8 19.8 161 100.0 24.4 24.4 61 100.0 9.2 9.2 71 100.0 10.7 10.7 49.0 100.0 7.4 7.4 95.0 100.0 14.4 14.4 76.0 100.0 11.5 11.5 17.0 100.0 2.6 2.6
	Count	3.0	14.0	17.0
II'.1 . 100	% Location	17.6	82.4	100.0
Highway 109	% within Gender	3.1	2.5	
	% of Total	0.5	2.1	
TD 4 1	Count	98.0	563.0	
Total	% of Total	14.8	85.2	

 Table 7
 Lake Tillery - group size by access location.

Access Areas	N	Mean	Std. Deviation	Minimum	Maximum
Norwood Access Area	113	2.12	1.211	1	7
Stony Mountain Access	90	3.66	11.445	1	110
Swift Island Access	276	2.95	2.232	1	22
Lilly's Bridge Access	216	2.68	1.796	1	15
Informal SR 1740 & SR 1745	42	2.29	1.367	1	6
Morrow Mountain State Park	302	3.73	4.369	1	50
Tillery Canoe Portage	38	3.92	2.832	1	12
Woodrun	1	4.00		4	4
Informal Tailwater Access Area	101	2.19	1.255	1	9
Total	1179	3.02	4.181	1	110

Table 8 Lake Tillery - number of children per group.

Access Areas	N	Mean	Std. Deviation	Minimum	Maximum
Norwood Access Area	113	.32	.685	0	3
Stony Mountain Access	90	.34	1.219	0	10
Swift Island Access	277	.64	1.233	0	8
Lilly's Bridge Access	216	.55	1.090	0	7
Informal SR 1740 & SR 1745	42	.57	.914	0	3
Morrow Mountain State Park	302	1.28	2.420	0	30
Tillery Canoe Portage	39	1.62	1.900	0	7
Woodrun	1	2.00		2	2
Informal Tailwater Access Area	101	.40	.861	0	4
Total	1181	.74	1.607	0	30

Table 9 Blewett Falls Lake - group size by access location.

Access Areas	N	Mean	Std. Deviation	Minimum	Maximum
Blewett Tailwater Access Area	138	2.2	1	1	10
Pee Dee Access Area	173	2.8	3	1	21
Grassy Islands Access Area	61	2.3	1	1	8
Blewett Falls Canoe Portage	71	2.9	2	1	14
U.S. Highway 74 Site	48	2.4	1	1	9
Informal Tailrace Access	102	2.4	2	1	15
Informal SR 1744 Site	78	4.0	5	1	41
Highway 109	17	2.0	1	1	4
Total	688	2.7	3	1	41

Table 10 Blewett Falls Lake - number of Children.

Access Areas	N	Mean	Std. Deviation	Minimum	Maximum
Blewett Tailwater Access Area	138	.31	.781	0	4
Pee Dee Access Area	173	.57	1.132	0	6
Grassy Islands Access Area	61	.33	.569	0	2
Blewett Falls Canoe Portage	71	.70	1.269	0	6
U.S. Highway 74 Site	49	.37	.809	0	3
Informal Tailrace Access	102	.62	1.653	0	12
Informal SR 1744 Site	78	.95	1.906	0	11
Highway 109	17	.06	.243	0	1
Total	689	.53	1.239	0	12

Table 11 Frequency of visitation to Lake Tillery.

Frequency of Visitation	n Frequency	Percent
First-time visitor	35	2.9
1-5 times per year	364	30.3
6-10 times per year	195	16.2
11-20 times per year	230	19.2
21-50 times per year	217	18.1
51-100 times per year	91	7.6
\geq 100 times per year	69	5.7
]	Total 1,201	100.0

Table 12 Frequency of visitation by survey location for Lake Tillery.

				Recreat	ion Visit	s per Yea	ır		
Location	Count	First Time	1-5	6-10	11-20	21-50	51-100	≥100	Total
Norwood Access	Count	1	10	15	29	38	12	12	117
Area	% w/in Location	0.9	8.5	12.8	24.8	32.5	10.3	10.3	100.0
Aica	% of Total	0.1	0.8	1.3	2.4	3.2	1.0	1.0	9.8
Stony Mountain	Count	1	24	16	19	19	4	5	88
Access	% w/in Location	1.1	27.3	18.2	21.6	21.6	4.5	5.7	100.0
Access	% of Total	0.1	2.0	1.3	1.6	1.6	0.3	0.4	7.4
Swift Island	Count	7	62	51	59	55	26	21	281
Access	% w/in Location	2.5	22.1	18.1	21.0	19.6	9.3	7.5	100.0
Access	% of Total	0.6	5.2	4.3	4.9	4.6	2.2	1.8	23.5
Lilly's Bridge	Count	8	42	36	49	52	20	10	217
Access	% w/in Location	3.7	19.4	16.6	22.6	24.0	9.2	4.6	100.0
Access	% of Total	0.7	3.5	3.0	4.1	4.3	1.7	0.8	18.1
Informal SD	Count	1	16	3	7	3	9	3	42
Informal SR 1740 & SR 1745	% w/in Location	2.4	38.1	7.1	16.7	7.1	21.4	7.1	100.0
	% of Total	0.1	1.3	0.3	0.6	0.3	0.8	0.3	3.5
Morrow	Count	15	170	52	39	24	7	3	310
Mountain State	% w/in Location	4.8	54.8	16.8	12.6	7.7	2.3	1.0	100.0
Park	% of Total	1.3	14.2	4.3	3.3	2.0	0.6	0.3	25.9
T:11 C	Count	1	9	7	9	10	1	2	39
Tillery Canoe	% w/in Location	2.6	23.1	17.9	23.1	25.6	2.6	5.1	100.0
Portage	% of Total	0.1	0.8	0.6	0.8	0.8	0.1	0.2	3.3
	Count	0	0	0	0	0	1	0	1
Woodrun	% w/in Location	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Informal	Count	1	29	15	17	15	11	13	101
Tailwater Access	% w/in Location	1.0	28.7	14.9	16.8	14.9	10.9	12.9	100.0
Area	% of Total	0.1	2.4	1.3	1.4	1.3	0.9	1.1	8.4
	Count	35	362	195	228	216	91	69	1196
Total	% of Total	2.9	30.3	16.3	19.1	18.1	7.6	5.8	100.0

Table 13 Number of hours spent at Lake Tillery.

Survey Location —		Hours spent at t	the lake today	
Survey Location —	1-4 hours	4-8 hours	> 8 hours	Total
Norwood Access Area	59	51	7	117
Stony Mountain Access	37	31	18	86
Swift Island Access	121	124	35	280
Lilly's Bridge Access	118	89	10	217
Informal SR 1740 & SR 1745	30	10	1	41
Morrow Mountain State Park	180	101	22	303
Tillery Canoe Portage	21	13	5	39
Woodrun	1	0	0	1
Informal Tailwater Access Area	76	21	5	102
Total Count	643	440	103	1186
Total Percent	54.2%	37.1%	8.7%	100.0%

Table 14 Number of nights spent at Lake Tillery.

	0 1					
Courses I coeffee			Numl	oer of Nights		
Survey Location	1 night	2 nights	3 nights	3-7 nights	>7 nights	Total
Norwood Access Area	4	3	0	1	0	8
Stony Mountain Access	10	4	1	1	0	16
Swift Island Access	23	12	5	2	0	42
Lilly's Bridge Access	5	6	14	4	0	29
Informal SR 1740 & SR 1745	2	0	0	0	0	2
Morrow Mountain State Park	21	42	10	15	1	89
Tillery Canoe Portage	8	0	0	0	0	8
Informal Tailwater Access Area	3	1	0	0	0	4
Total Count	76	68	30	23	1	198
Total Percent	38.4%	34.3%	15.2 %	11.6%	0.5%	100.0%

Table 15 Frequency of visitation to Blewett Falls Lake.

Frequency of Visitation	Frequency	Percent
First-time visitor	10	1.4
1-5 times per year	112	15.9
6-10 times per year	96	13.6
11-20 times per year	143	20.3
21-50 times per year	175	24.9
51-100 times per year	93	13.2
≥ 100 times per year	75	10.7
Total	704	100.0

Table 16 Frequency of visitation by survey location for Blewett Falls Lake.

				Recreat	ion Visits	per Year			
Sur	vey Location	First Visit	1-5	6-10	11-20	21-50	51-100	> 100	Total
Blewett	Count	3	22	17	26	35	24	14	141
Tailwater	% within location	2.1%	15.5%	12.0%	18.4%	24.6%	16.9%	9.9%	100.0%
Access Area	%Total	.4%	3.1%	2.4%	3.9%	5.0%	3.4%	2.0%	20.2%
Pee Dee	Count	2	33	28	35	43	22	15	178
Access	% within location	1.1%	18.5%	15.7%	19.7%	24.2%	12.4%	8.4%	100.0%
Area	%Total	.3%	4.7%	4.0%	5.0%	6.2%	3.1%	2.1%	25.5%
Grassy	Count	0	7	6	10	20	11	8	62
Islands	% within location	.0%	11.3%	9.7%	16.1%	32.3%	17.7%	12.9%	100.0%
Access Area	%Total	.0%	1.0%	.9%	1.4%	2.9%	1.6%	1.1%	8.9%
Blewett	Count	2	20	11	15	13	8	3	72
Falls	% within location	2.8%	27.8%	15.3%	20.8%	18.1%	11.1%	4.2%	100.0%
Canoe Portage	%Total	.3%	2.9%	1.6%	2.1%	1.9%	1.1%	.4%	10.3%
U.S.	Count	2	12	6	8	10	1	8	47
Highway	% within location	4.3%	25.5%	12.8%	17.0%	21.3%	2.1%	17.0%	100.0%
74 Site	%Total	.3%	1.7%	.9%	1.1%	1.4%	.1%	1.1%	6.7%
Informal	Count	1	10	11	24	31	12	15	104
Tailrace	% within location	1.0%	9.6%	10.6%	23.1%	29.8%	11.5%	14.4%	100.0%
Access	%Total	.1%	1.4%	1.6%	3.4%	4.4%	1.7%	2.1%	14.9%
Informal	Count	0	5	11	17	19	15	10	77
SR 1744	% within location	.0%	6.5%	14.3%	22.1%	24.7%	19.5%	13.0%	100.0%
Site	%Total	.0%	.7%	1.6%	2.4%	2.7%	2.1%	1.4%	11.0%
Lighway.	Count	0	1	5	7	3	0	1	17
Highway 109	% within location	.0%	5.9%	29.4%	41.2%	17.6%	.0%	5.9%	100.0%
10)	%Total	.0%	.1%	.7%	1.0%	.4%	.0%	.1%	2.4%
Total	Count	10	110	95	142	174	93	74	698
Total	%Total	1.4%	15.7%	13.6%	20.3%	24.9%	13.3%	10.6%	100.0%

Table 17 Number of hours spent at Blewett Falls Lake.

Survey Location —		Hours spent of	on the lake today	
Survey Location —	1-4 hours	4-8 hours	> than 8 hours	Total
Blewett Tailwater Access Area	85	43	12	140
Pee Dee Access Area	79	76	18	173
Grassy Islands Access Area	29	23	12	64
Blewett Falls Canoe Portage	36	30	5	71
U.S. Highway 74 Site	23	21	5	49
Informal Tailrace Access	51	43	9	103
Informal SR 11744 Site	31	29	17	77
Highway 109	11	6	0	17
Total Count	345	271	78	694
Total Percent	49.7%	39.0%	11.2%	100.0%

Table 18 Number of nights spent at Blewett Falls Lake.

Survey Location -		N	Number of Night	ts	
Survey Location —	1 night	2 nights	3 nights	4-7 nights	Total
Blewett Tailwater Access Area	13	6	3	1	23
Pee Dee Access Area	10	10	9	1	30
Grassy Islands Access Area	10	5	3	3	21
Blewett Falls Canoe Portage	6	4	1	3	14
U.S. Highway 74 Site	6	0	2	3	11
Informal Tailrace Access	9	5	1	0	15
Informal SR 1744 Site	11	8	5	8	32
Highway 109	1	0	0	0	1
Total Count	66	38	24	19	147
Total Percent	44.9%	25.9%	16.3%	12.9%	100.0%

Lake Tillery

Table 19 Recreational activities reported in the past 12 months at Lake Tillery.

							Α	ctivity							
Survey Location	Motor boating	Boat fishing	Bank fishing	Canoeing	River canoeing	Hiking	Swimming	Jet skiing	Water skiing	Camping	Picnicking	Sun bathing	Sailing	Hunting	Wildlife viewing
Norwood Access Area	45	95	18	0	1	3	28	21	23	6	11	9	2	7	4
Stony Mtn. Access	22	41	49	0	1	2	17	6	13	15	7	11	1	5	1
Swift Island Access	128	205	40	3	1	4	101	46	78	28	27	50	0	14	8
Lilly's Bridge Access	77	139	65	2	0	0	66	36	39	14	24	28	2	2	7
Informal SR 1740 & SR 1745	4	9	39	1	0	2	6	0	1	6	5	2	0	3	4
Morrow Mountain State Park	37	89	157	61	15	125	68	10	9	127	117	44	0	5	105
Tillery Canoe Portage	5	8	378	0	0	0	11	1	1	10	9	5	0	2	1
Woodrun	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Informal Tailwater Access Area	11	32	84	2	2	0	8	3	5	8	6	5	0	5	7
Total n	329	619	490	69	20	136	305	123	169	214	206	154	5	43	137
% of Population (N=1209)	27.2	51.2	40.5	5.7	1.7	11.2	25.2	10.2	14.0	17.7	17.0	12.7	0.4	3.6	11.3

Table 20 Primary recreation activity/reason for visiting Lake Tillery.

					Prin	ary A	ctivit	y/Reas	son fo	r Visit	ing					
Survey Location	Motor boating	Boat Fishing	Bank Fishing	Lake Canoeing	River canoeing	Hiking	Swimming	Jet Skiing	Water skiing	Camping	Picnicking	Sunbathing	Hunting	Wildlife Viewing	Sightseeing	Other
Norwood Access Area	23	82	7	0	0	0	2	8	4	0	0	0	2	0	0	2
Stony Mountain Access	8	29	40	0	0	0	3	4	1	6	1	0	0	2	0	4
Swift Island Access	92	175	11	0	0	0	24	15	15	1	0	5	0	1	1	7
Lilly's Bridge Access	48	100	45	1	0	1	8	19	7	3	1	0	0	0	0	6
Informal SR 1740 & SR 1745	0	0	41	0	0	0	1	0	0	0	1	0	0	1	0	1
Morrow Mountain State Park	4	44	104	31	7	55	8	3	1	58	46	2	0	33	1	22
Tillery Canoe Portage	0	2	33	0	0	1	0	0	0	2	1	3	0	1	0	0
Informal Tailwater Access Area	1	15	82	1	0	0	1	1	0	0	0	0	0	2	0	3
Total N	176	447	363	33	7	57	47	50	28	70	50	11	2	40	2	45
% of Population Sampled (N=1208)	14.6	37.	30.0	2.7	0.6	4.7	3.9	4.1	2.3	5.8	4.1	0.9	0.2	3.3	0.2	3.7

 Table 21
 Recreation activities have/will participated in today.

	Activity														
Survey Location	Motor boating	Boat fishing	Bank fishing	Lake canoeing	River canoeing	Hiking	Swimming	Jet skiing	Water skiing	Camping	Picnic-king	Sun bathing	Hunting	Wildlife viewing	Tail water fishing
Norwood Access Area	22	80	7	0	0	0	5	10	5	0	2	3	1	0	0
Stony Mountain Access	8	29	42	0	0	1	5	4	2	6	0	1	0	3	0
Swift Island Access	86	163	10	0	0	0	44	24	37	3	7	31	0	5	0
Lilly's Bridge Access	37	71	32	1	0	1	28	13	12	3	9	18	0	2	0
Informal SR 1740 & SR 1745	0	0	41	0	0	0	1	0	0	0	1	1	0	1	0
Morrow Mountain State Park	5	48	133	34	10	69	31	2	2	67	74	14	0	58	4
Tillery Canoe Portage	0	1	35	0	0	0	3	0	0	2	1	6	0	1	0
Informal Tailwater Access Area	1	15	79	0	0	1	2	1	0	0	0	0	0	2	9
Total N	159	407	379	35	10	72	119	54	58	81	94	74	1	72	13
% of Population Sampled (N=1209)	13.2	33.6	31.3	2.9	0.8	6.0	9.8	4.5	4.8	6.7	7.8	6.1	0.1	6.0	1.1

 Table 22
 Participation in night time activities at Lake Tillery.

Survey Location	Count/%	Participate i Time Acti		Total
Docution		Yes	No	
	Count	53	47	100
Nonviord Access Anno	% within location	53.0	47.0	100.0
Norwood Access Area	% within Activities	10.1	8.5	9.3
	% of Total	4.9	4.3	9.3
	Count	45	32	77
Stony Mountain Access	% within location	58.4	41.6	100.0
Stony Mountain Access	% within Activities	8.5	5.8	7.1
	% of Total	4.2	3.0	7.1
	Count	145	115	260
Swift Island Access	% within location	55.8	44.2	100.0
Switt Island Access	% within Activities	27.5	20.8	24.1
	% of Total	13.4	10.6	24.1
	Count	81	106	187
Lilly's Dwidge Access	% within location	43.3	56.7	100.0
Lilly's Bridge Access	% within Activities	15.4	19.1	17.3
	% of Total	7.5	9.8	17.3
	Count	17	15	32
Informal CD 1740 % CD 1745	% within location	53.1	46.9	100.0
Informal SR 1740 & SR 1745	% within Activities	3.2	2.7	3.0
	% of Total	1.6	1.4	3.0
	Count	122	167	289
Morrow Mountain State Park	% within location	42.2	57.8	100.0
Morrow Mountain State Park	% within Activities	23.1	30.1	26.7
	% of Total	11.3	15.4	26.7
	Count	16	19	35
Tillam: Canaa Dantaga	% within location	45.7	54.3	100.0
Tillery Canoe Portage	% within Activities	3.0	3.4	3.2
	% of Total	1.5	1.8	3.2
	Count	47	53	100
Informal Tailwater Access Area	% within location	47.0	53.0	100.0
miorinai Tanwater Access Afea	% within Activities	8.9	9.6	9.3
	% of Total	4.3	4.9	9.3
	Count	526	554	1081
Total	% within Activities	100.0	100.0	100.0
	% of Total	48.8	51.2	100.0

Table 23 Types of night time activities at Lake Tillery.

					Nigl	nt Time	Activi	ty		
Survey Location	Count	Boat fishing	Bank fishing	Wildlife viewing	Tail-water fishing	Camping	Hiking	Motor boating	Other	Total
Norwood Access Area	Count	46	4	0	0	3	0	4	2	59
Notwood Access Area	% within location	78.0	6.8	0.0	0.0	5.1	0.0	6.8	3.4	100.0
Stony Mountain Agass	Count	22	18	0	0	15	0	4	5	64
Stony Mountain Access	% within location	34.4	28.1	0.0	0.0	23.4	0.0	6.3	7.8	100.0
Swift Island Access	Count	108	17	3	4	18	0	37	6	193
Swift Island Access	% within location	56.0	8.8	1.6	2.1	9.3	0.0	19.2	3.1	100.0
Lilly's Daidge Assess	Count	49	28	0	0	9	1	10	2	99
Lilly's Bridge Access	% within location	49.5	28.3	0.0	0.0	9.1	1.0	10.1	2.0	100.0
Informal SR 1740 & SR	Count	1	16	0	0	2	0	0	0	19
1745	% within location	5.3	84.2	0.0	0.0	10.5	0.0	0.0	0.0	100.0
Morrow Mountain State	Count	26	31	12	1	94	11	1	5	181
Park	% within location	14.4	17.1	6.6	0.6	51.9	6.1	0.6	2.8	100.0
Tillam, Canaa Dantaga	Count	1	15	0	0	6	0	0	0	22
Tillery Canoe Portage	% within location	4.5	68.2	0.0	0.0	27.3	0.0	0.0	0.0	100.0
Informal Tailwater Access	Count	12	37	1	5	4	0	2	3	64
Area	% within location	18.8	57.8	1.6	7.8	6.3	0.0	3.1	4.7	100.0
	Count	265	166	16	10	151	12	58	23	701
Total	% within total	37.8	23.6	2.3	1.4	21.5	1.7	8.3	3.3	100.0
1 otai	% of Night Time Activity Participants (N=526)	50.5	31.5	3.0	1.9	28.7	2.3	11.0	4.4	

Blewett Falls Lake

Table 24 Recreational activities reported in the past 12 months at Blewett Falls Lake.

	Activity														
Survey Location	Motor boating	Boat fishing	Bank fishing	Canoeing	River canoeing	Hiking	Swimming	Jet skiing	Water skiing	Camping	Picnicking	Sun bathing	Sailing	Hunting	Wildlife viewing
Blewett Tailwater Access Area	21	57	123	2	2	2	15	5	6	20	11	8	0	16	7
Pee Dee Access Area	72	144	31	0	0	1	42	22	41	54	20	11	0	11	7
Grassy Islands Access Area	21	54	24	3	5	5	13	1	5	24	6	7	0	18	9
Blewett Falls Canoe Portage	14	25	49	0	0	6	25	9	5	16	21	8	0	3	12
U.S. Highway 74 Site	8	32	26	2	5	5	6	4	4	7	5	2	0	8	6
Informal Tailrace Access	16	56	74	1	3	5	17	5	5	15	8	8	0	6	6
Informal SR 1744 Site	31	45	56	3	2	7	37	13	13	40	33	19	0	10	15
Highway 109	4	12	11	0	1	0	1	1	1	4	0	1	0	3	2
Total N	187	425	394	11	18	31	156	60	80	180	104	64	0	75	64
% of Population Sampled (N=711)	26.3	59.8	55.4	1.5	2.5	4.4	21.9	8.4	11.3	25.3	14.6	9.0	0.0	10.5	9.0

Table 25 Primary recreation activity/reason for visiting Blewett Falls Lake.

	Primary Activity/Reason for Visiting															
Survey Location	Motor boating	Boat Fishing	Bank Fishing	Lake Canoeing	River Canoeing	Hiking	Swimming	Jet Skiing	Water Skiing	Camping	Picnicking	Sunbathing	Hunting	Wildlife Viewing	Tail-water Fishing	Other
Blewett Tailwater Access Area	4	19	115	2	1	1	5	3	5	6	2	4	4	2	1	5
Pee Dee Access Area	49	118	9	0	0	0	10	14	14	12	2	1	1	3	0	9
Grassy Islands Access Area	8	46	8	1	1	0	0	0	0	3	0	2	8	4	0	3
Blewett Falls Canoe Portage	3	8	41	0	0	4	14	2	1	4	15	5	0	6	0	4
U.S. Highway 74 Site	3	26	17	0	2	1	2	1	1	0	1	0	3	4	0	3
Informal Tailrace Access	4	34	66	2	0	0	7	0	0	5	3	5	1	4	0	3
Informal SR 1744 Site	5	23	28	0	0	3	15	5	0	18	11	8	6	6	0	6
Highway 109	1	8	7	0	0	0	1	1	1	0	0	1	1	2	0	1
Total N	77	282	291	5	4	9	54	26	21	48	34	26	24	31	1	34
% of Population Sampled (N=711)	10.8	39.7	40.9	0.7	0.6	1.3	7.6	3.7	3.0	6.8	4.8	3.7	3.4	4.4	0.1	4.8

Table 26 Recreation activities have/will participate in today at Blewett Falls Lake.

							Ac	tivity							
Survey Location	Motor boating	Boat fishing	Bank fishing	Lake canoeing	River canoeing	Hiking	Swimming	Jet skiing	Water skiing	Camping	Picnic-king	Sun bathing	Hunting	Wildlife viewing	Tail water fishing
Blewett Tailwater Access Area	5	15	108	0	0	1	5	2	3	2	4	3	0	4	30
Pee Dee Access Area	52	114	4	0	0	0	17	10	18	10	4	8	1	2	0
Grassy Islands Access Area	7	35	7	1	1	1	0	0	0	2	0	5	3	3	0
Blewett Falls Canoe Portage	0	6	35	0	0	5	16	0	0	3	17	8	0	8	0
U.S. Highway 74 Site	2	22	17	0	2	2	1	0	0	1	2	1	2	6	2
Informal Tailrace Access	2	28	64	0	1	1	6	0	0	2	5	8	1	4	2
Informal SR 1744 Site	5	16	25	0	0	2	23	6	3	10	15	18	3	5	1
Highway 109	2	9	4	0	0	0	0	0	0	0	1	1	0	3	0
Total N	75	245	264	1	4	12	68	18	24	30	48	52	10	35	35
% of Population Sampled (N=711)	10.5	34.5	37.1	0.1	0.6	1.7	9.6	2.5	3.4	4.2	6.8	7.3	1.4	4.9	4.9

Table 27 Participation in night time activities at Blewett Falls Lake.

Access Areas	Count	Participation in Nig	ht Time Activities	Total
		Yes	No	
	Count	70	60	130
Blewett Tailwater Access Area	% within location	53.8	46.2	100.0
Blewett Tallwater Access Area	% within activity	19.4	24.1	21.3
	% of Total	11.5	9.9	21.3
	Count	87	60	147
Pee Dee Access Area	% within location	59.2	40.8	100.0
ree Dee Access Alea	% within activity	24.2	24.1	24.1
	% of Total	14.3	No 60 46.2 24.1 9.9 60 40.8 24.1 9.9 16 31.4 6.4 2.6 29 49.2 11.6 4.8 16 43.2 6.4 2.6 42 44.7 16.9 6.9 20 26.7 8.0 3.3 6 37.5 2.4 1.0 249 100.0	24.1
	Count	35	16	51
Green Islands Access Area	% within location	68.6	31.4	100.0
Grassy Islands Access Area	% within activity	9.7	6.4	8.4
	% of Total	5.7	2.6	8.4
	Count	30	29	59
Playett Fells Canas Portage	% within location	50.8	49.2	100.0
Blewett Falls Canoe Portage	% within activity	8.3	11.6	9.7
	% of Total	4.9	4.8	9.7
	Count	21	16	37
II S. Highway 74 Sita	% within location	56.8	43.2	100.0
U.S. Highway 74 Site	% within activity	5.8	6.4	6.1
	% of Total	3.4	No 60 46.2 24.1 9.9 60 40.8 24.1 9.9 16 31.4 6.4 2.6 29 49.2 11.6 4.8 16 43.2 6.4 2.6 42 44.7 16.9 6.9 20 26.7 8.0 3.3 6 37.5 2.4 1.0 249	6.1
	Count	52	42	94
Informal Tailrace Access	% within location	55.3	44.7	100.0
Informal Tanrace Access	% within activity	14.4	No 60 46.2 24.1 9.9 60 40.8 24.1 9.9 16 31.4 6.4 2.6 29 49.2 11.6 4.8 16 43.2 6.4 2.6 42 44.7 16.9 6.9 20 26.7 8.0 3.3 6 37.5 2.4 1.0 249 100.0	15.4
	% of Total	8.5	6.9	15.4
	Count	55	20	75
Informal SR 1744 Site	% within location	73.3	26.7	100.0
Illioilliai SK 1744 Site	% within activity	15.3	8.0	12.3
	% of Total	9.0	3.3	12.3
	Count	10	6	16
Highway 109	% within location	62.5	37.5	100.0
Ingliway 107	% within activity	2.8	2.4	2.6
	% of Total	1.6	1.0	2.6
	Count	360	249	609
Total	% within activity	100.0	100.0	100.0
	% of Total	59.1	40.9	100.0

Table 28 Night time activities at Blewett Falls Lake.

	_				Night t	ime ac	tivity			
Survey Location	Count	Boat fishing	Bank fishing	Wildlife viewing	Tail-water fishing	Camping	Hiking	Motor boating	Other	Total
Blewett Tailwater Access Area	Count	27	55	4	10	12	0	1	2	111
Blewett Tallwater Access Area	% within location	24.3	49.5	3.6	9.0	10.8	0.0	0.9	1.8	100.0
D D A A	Count	69	16	1	0	34	1	9	1	131
Pee Dee Access Area	% within location	52.7	12.2	0.8	0.0	26.0	5.0 0.8 16 0 5.8 0.0	6.9	0.8	100.0
Grassy Islands Agoss Aras	Count	25	12	1	1	16	0	2	5	62
Grassy Islands Access Area	% within location	40.3	19.4	1.6	1.6	25.8	3 0.0	3.2	8.1	100.0
	Count	13	20	1	0	13	0	1	5	53
Blewett Falls Canoe Portage	% within location	24.5	37.7	1.9	0.0	24.5	0.0	1.9	9.4	100.0
U.S. Highway 74 Site	Count	16	8	0	2	4	1	0	2	33
U.S. filgilway /4 Site	% within location	48.5	24.2	0.0	6.1	12.1	3.0	0.0	6.1	100.0
Informal Tailrace Access	Count	20	36	1	2	9	0	1	1	70
informal Taliface Access	% within location	28.6	51.4	1.4	2.9	12.9	0.0	1.4	1.4	100.0
Informal SR 1744 Site	Count	17	28	2	2	34	2	4	4	93
informal SK 1/44 Site	% within location	18.3	30.1	2.2	2.2	36.6	2.2	4.3	4.3	100.0
Highway 100	Count	7	5	0	0	3	0	1	0	16
Highway 109	% within location	43.8	31.3	0.0	0.0	18.8	0.0	6.3	0.0	100.0
	Count	194	180	10	17	125	4	19	20	569
Total	% within total	34.1	31.6	1.8	3.0	22.0	0.7	3.3	3.5	100.0
Total	% of Night Time Activity Participants (N=360)	53.9	50.0	2.8	4.7	34.7	1.0	5.3	5.6	

Lake Tillery

Table 29 Evaluation of conditions at Lake Tillery.

Have you experienced conditions that interfered with your experience?	Frequency	Percentage	
Yes	352	32.8	
No	721	67.2	
Total	1073	100.0	
Did not address	136		
Total	1,209		

Table 30 Conditions interfering at Lake Tillery.

Lake Tillery Su	myoy I ogotions			Total
Lake Thiery Su	ivey Locations	Yes		Total
Norwood Access Area	Count	39.0	70.0	109.0
	% within Survey location	35.8	64.2	100.0
	% of Total	3.6	6.5	10.2
Stony Mountain Access	Count	44.0	31.0	75.0
·	% within Survey location	58.7	41.3	100.0
	% of Total	4.1	70.0 64.2 6.5 31.0	7.0
Swift Island Access	Count	88.0	161.0	249.0
	% within Survey location	35.3	64.7	100.0
	% of Total	8.2	70.0 64.2 6.5 31.0 41.3 2.9 161.0 64.7 15.1 141.0 71.6 13.2 19.0 61.3 1.8 216.0 77.7 20.2 17.0 47.2 1.6 63.0 67.0 5.9 718.0	23.3
Lilly's Bridge Access	Count 56.0 % within Survey location 28.4	56.0	141.0	197.0
	% within Survey location	28.4	71.6	100.0
	% of Total	5.2	13.2	18.4
Informal SR 1740 & SR 1745	Count	12.0	19.0	31.0
	% within Survey location	38.7	61.3	100.0
	% of Total	1.1	19.0 61.3 1.8	2.9
Morrow Mountain State Park	Count	62.0	216.0	278.0
	% within Survey location	22.3	77.7	100.0
	% of Total	5.8	61.3 1.8 216.0 77.7	26.0
Tillery Canoe Portage	Count	19.0	17.0	36.0
	% within Survey location	52.8	47.2	100.0
	% of Total	1.8	1.6	3.4
Informal Tailwater Access Area	Count	31.0	63.0	94.0
	% within Survey location	33.0	67.0	100.0
	% of Total	2.9	5.9	8.8
Total	Count	351.0	718.0	1069.0
	% within Survey location	32.8	67.2	100.0
	% of Total	32.8	67.2	100.0

Table 31 Level of concern for crowded conditions on Lake Tillery.

			- v
Level of Concern	Frequency	Percentage	
Low	149	61.6	
Medium	63	26.0	
High	30	12.4	
Total	242	100	
Did not address	967		
Total	1,209		

Table 32 Concern for crowded conditions on Lake Tillery by survey location.

Lake Tillery Survey	Lagations	Level of Co	ncern for Crowde	d Conditions	Total
Lake Tillery Survey	Locations -	Low	Medium	High	Total
	Count	14	6	6	26
Norwood Access Area	% within location	53.8	23.1	23.1	100
	% of Total	5.8	2.5	2.5	10.8
	Count	19	5	2	26
Stony Mountain Access	% within location	73.1	19.2	7.7	100
	% of Total	7.9	2.1	.8	10.8
	Count	23	23	8	54
Swift Island Access	% within location	42.6	42.6	14.8	100
	% of Total	9.5	9.5	3.3	22.4
	Count	21	10	5	36
Lilly's Bridge Access	% within location	58.3	27.8	13.9	100
	% of Total	8.7	4.1	2.1	14.9
	Count	12	0	0	12
Informal SR 1740 & SR 1745	% within location	100.0	.0	.0	100
	% of Total	5.0	.0	.0	5.0
	Count	35	10	6	51
Morrow Mountain State Park	% within Survey location	68.6	19.6	11.8	100
	% of Total	14.5	4.1	2.5	21.2
	Count	10	2	2	14
Tillery Canoe Portage	% within location	71.4	14.3	14.3	100
	% of Total	4.1	.8	.8	5.8
	Count	15	6	1	22
Informal Tailwater Access Area	% within location	68.2	27.3	4.5	100
	% of Total	6.2	2.5	.4	9.1
Total	Count	149	62	30	241
	% of Total	61.8	25.7	12.4	100

Table 33 Level of concern for limited access at Lake Tillery.

Level of Concern	Frequency	Percentage	
Low	164	13.6	
Medium	43	3.6	
High	16	1.3	
Total	223	18.4	
Did not address	986	81.6	
Total	1,209	100	

Table 34 Concern for limited access on Lake Tillery by location.

Cumvey I con	tion.	Level	of Concern wi	th Limited	Access
Survey Loca	uon	Low	Medium	High	Total
	Count	16	5	2	23
Norwood Access Area	% within location	69.6	21.7	8.7	100
	% of Total	7.2	2.3	.9	10.4
	Count	21	4	1	26
Stony Mountain Access	% within location	80.8	15.4	3.8	100
	% of Total	9.5	1.8	.5	11.7
	Count	31	13	3	47
Swift Island Access	% within location	16 5 2 69.6 21.7 8.7 7.2 2.3 .9 21 4 1 80.8 15.4 3.8 9.5 1.8 .5	100		
	% of Total	14.0	5.9	1.4	21.2
	Count	24	2	1	27
Lilly's Bridge Access	% within location	88.9	7.4	3.7	100
	% of Total	10.8	.9	.5	12.2
	Count	8	5	1	14
Informal SR 1740 & SR 1745	% within location	57.1	35.7	7.1	100
	% of Total	3.6	2.3	.5	6.3
	Count	40	2	2	44
Morrow Mountain State Park	% within location	90.9	4.5	4.5	100
	% of Total	18.0	.9	High 2 8.7 .9 1 3.8 .5 3 6.4 1.4 1 3.7 .5 1 7.1 .5 2 4.5 .9 1 6.3 .5 4 16.0 1.8 15	19.8
	Count	9	6	1	16
Tillery Canoe Portage	% within location	56.3	37.5	6.3	100
	% of Total	4.1	2.7	.5	7.2
	Count	15	6	4	25
Informal Tailwater Access Area	% within location	60.0	24.0	16.0	100
	% of Total	6.8	2.7	1.8	11.3
Total	Count	164	43	15	222
	% of Total	73.9	19.4	6.8	100.0

Table 35 Level of concern for improper disposal of trash on Lake Tillery.

Level of Concern	Frequency	Percentage	
Low	117	40.3	
Medium	72	24.8	
High	101	34.8	
Total	290	100.0	
Did not address	919		
Total	1,209		

Table 36 Concern for improper disposal of litter or trash on Lake Tillery by location.

Lake Tillery Surve	ey Location	Level of C	oncern with Impr Tras		of Litter or
•	-	Low	Medium	High	Total
	Count	7	14	11	32
Norwood Access Area	% within location	21.9	43.8	34.4	100
	% of Total	2.4	4.8	3.8	11.1
	Count	9	9	19	37
Stony Mountain Access	% within location	24.3	24.3	51.4	100
	% of Total	3.1	3.1	6.6	12.8
	Count	32	17	26	75
Swift Island Access	% within location	42.7	22.7	34.7	100
	% of Total	11.1	5.9	9.0	26.0
Lilly's Bridge Access	Count	12	9	14	35
	% within location	34.3	25.7	40.0	100
	% of Total	4.2	3.1	4.8	12.1
I C 1 CD 1710 0 CD	Count	5	3	6	14
Informal SR 1740 & SR 1745	% within location	35.7	21.4	42.9	100
1743	% of Total	1.7	1.0	2.1	4.8
	Count	36	8	7	51
Morrow Mountain State Park	% within location	70.6	15.7	13.7	100
raik	% of Total	12.5	2.8	2.4	17.6
	Count	4	4	9	17
Tillery Canoe Portage	% within location	23.5	23.5	52.9	100
	% of Total	1.4	1.4	3.1	5.9
T. C. 1771.11	Count	11	8	9	28
Informal Tailwater Access Area	% within location	39.3	28.6	32.1	100
Alca	% of Total	3.8	2.8	3.1	9.7
Total	Count	116	72	101	289
	% of Total	40.1	24.9	34.9	100.0

Table 37 Level of concern for lake water levels at Lake Tillery.

Level of Concern	Frequency	Percentage
Low	127	49.0
Medium	70	27.0
High	62	23.9
Total	259	100.0
Did not address	950	
Total	1,209	

Table 38 Concern for lake water levels at Lake Tillery by location.

Lake Tillery Survey Location		Level o	Level of Concern with Lake Water Levels			
		Low	Medium	High	Total	
Norwood Access Area	Count	9	13	14	36	
	% within location	25.0	36.1	38.9	100	
	% of Total	3.5	5.0	5.4	14.0	
Stony Mountain Access	Count	14	6	8	28	
	% within location	50.0	21.4	28.6	100	
	% of Total	5.4	2.3	3.1	10.9	
Swift Island Access	Count	21	21	22	64	
	% within location	32.8	32.8	34.4	100	
	% of Total	8.1	8.1	8.5	24.8	
Lilly's Bridge Access	Count	19	9	5	33	
	% within location	57.6	27.3	15.2	100	
	% of Total	7.4	3.5	1.9	12.8	
Informal SR 1740 & SR 1745	Count	11	2	2	15	
	% within location	73.3	13.3	13.3	100	
	% of Total	4.3	.8	.8	5.8	
Morrow Mountain State Park	Count	33	11	2	46	
	% within location	71.7	23.9	4.3	100	
	% of Total	12.8	4.3	.8	17.8	
Tillery Canoe Portage	Count	9	2	1	12	
	% within location	75.0	16.7	8.3	100	
	% of Total	3.5	.8	.4	4.7	
Informal Tailwater Access Area	Count	11	5	8	24	
	% within location	45.8	20.8	33.3	100	
	% of Total	4.3	1.9	3.1	9.3	
Total	Count	127	69	62	258	
	% of Total	49.2	26.7	24.0	100.0	

Blewett Falls Lake

Table 39 Evaluation of conditions at Blewett Falls Lake.

Have you experienced conditions that interfered with your experience?	Frequency	Percentage	
Yes	394	59.7	
No	266	40.3	
Total	660	100.0	
Did not address	51		
Total	711		

Table 40 Conditions interfering at Blewett Falls Lake.

Survey Location	Ç	Have you experienced specific conditions at Blewett Falls Lake that interfered with your recreation experience?		
•		Yes	No	Total
	Count	61	76	137
Blewett Tailwater Access Area	% within location	44.5	55.5	100
	% of Total	9.3	11.6	20.9
Pee Dee Access Area	Count	97	64	161
	% within location	60.2	39.8	100
	% of Total	14.8	9.8	24.6
Grassy Islands Access Area	Count	51	11	62
	% within location	82.3	17.7	100
	% of Total	7.8	1.7	9.5
Blewett Falls Canoe Portage	Count	37	28	65
	% within location	56.9	43.1	100
	% of Total	5.7	4.3	9.9
U.S. Highway 74 Site	Count	21	21	42
	% within location	50.0	50.0	100
	% of Total	3.2	3.2	6.4
Informal Tailrace Access	Count	63	32	95
	% within location	66.3	33.7	100
	% of Total	9.6	4.9	14.5
Informal SR 1744 Site	Count	54	21	75
	% within location	72.0	28.0	100
	% of Total	8.3	3.2	11.5
Highway 109	Count	5	12	17
	% within location	29.4	70.6	100
	% of Total	.8	1.8	2.6
	Count	389	265	654
Total	% of Total	59.5	40.5	100.0

Table 41 Level of concern for crowded conditions on Blewett Falls Lake.

Level of Concern	Frequency	Percentage
Low	131	68.9
Medium	43	22.6
High	16	8.4
Total	190	100.0
Did not address	521	
Total	711	

Table 42 Concern for crowded conditions on Blewett Falls Lake by survey location.

Survey Location -		Level o	f Concern with (Crowded Con	ditions
Survey Local		Low	Medium	High	Total
	Count	23	6	3	32
Blewett Tailwater Access Area	% within location	71.9	18.8	9.4	100
	% of Total	12.2	3.2	1.6	17.0
	Count	32	6	5	43
Pee Dee Access Area	% within location	74.4	14.0	11.6	100
	% of Total	17.0	3.2	2.7	22.9
	Count	13	6	1	20
Grassy Islands Access Area	% within location	65.0	30.0	5.0	100
	% of Total	6.9	3.2	.5	10.6
	Count	13	4	0	17
Blewett Falls Canoe Portage	% within location	76.5	23.5	.0	100
	% of Total	6.9	2.1	.0	9.0
	Count	7	2	0	9
U.S. Highway 74 Site	% within location	77.8	22.2	.0	100
	% of Total	3.7	1.1	.0	4.8
	Count	21	9	2	32
Informal Tailrace Access	% within location	65.6	28.1	6.3	100
	% of Total	11.2	4.8	1.1	17.0
	Count	19	9	4	32
Informal SR 1744 Site	% within location	59.4	28.1	12.5	100
	% of Total	10.1	4.8	2.1	17.0
	Count	3	0	0	3
Highway 109	% within location	100.0	.0	.0	100
	% of Total	1.6	.0	.0	1.6
75.4.1	Count	131	42	15	188
Total	% of Total	69.7	22.3	8.0	100.0

Table 43 Level of concern for limited access at Blewett Falls Lake.

Level of Concern	Frequency	Percentage	
Low	98	46.9	
Medium	60	28.7	
High	51	24.4	
Total	209	100.0	
Did not address	502		
Total	711		

Table 44 Concern for limited access on Blewett Falls Lake by location.

Survey Local	tion	Lev	el of Concern wit	th Limited Ac	cess
Survey Local	uon	Low	Medium	High	Total
	Count	16	12	6	34
Blewett Tailwater Access Area	% within location	47.1	35.3	17.6	100
	% of Total	7.8	5.9	2.9	16.6
	Count	28	9	5	42
Pee Dee Access Area	% within location	66.7	21.4	11.9	100
	% of Total	13.7	4.4	2.4	20.5
	Count	9	3	6	18
Grassy Islands Access Area	% within location	50.0	16.7	33.3	100
	% of Total	4.4	1.5	2.9	8.8
	Count	7	4	10	21
Blewett Falls Canoe Portage	% within location	33.3	19.0	47.6	100
	% of Total	3.4	2.0	4.9	10.2
	Count	6	3	3	12
U.S. Highway 74 Site	% within location	50.0	25.0	25.0	100
	% of Total	2.9	1.5	1.5	5.9
	Count	16	14	10	40
Informal Tailrace Access	% within location	40.0	35.0	25.0	100
	% of Total	7.8	6.8	4.9	19.5
	Count	12	13	9	34
Informal SR 1744 Site	% within location	35.3	38.2	26.5	100
	% of Total	5.9	6.3	4.4	16.6
	Count	3	1	0	4
Highway 109	% within location	75.0	25.0	.0	100
- •	% of Total	1.5	.5	.0	2.0
	Count	97	59	49	205
Total	% of Total	47.3	28.8	23.9	100.0

Table 45 Level of concern for improper disposal of trash on Blewett Falls Lake.

Level of Concern	Frequency	Percentage	
Low	58	23.2	
Medium	67	26.8	
High	125	50.0	
Total	250	100.0	
Did not address	461		
Total	711		

Table 46 Concern for improper disposal of litter or trash on Blewett Falls Lake by location.

Survey Local	tion	Level of Co	ncern with Impro Tras		of Litter or
•			Medium	High	Total
	Count	13	6	26	45
Blewett Tailwater Access Area	% within location	28.9	13.3	57.8	100
	% of Total	5.3	2.4	10.5	18.2
	Count	9	14	31	54
Pee Dee Access Area	% within location	16.7	25.9	57.4	100
	% of Total	3.6	5.7	12.6	21.9
	Count	7	8	4	19
Grassy Islands Access Area	% within location	36.8	42.1	21.1	100
	% of Total	2.8	3.2	1.6	7.7
	Count	4	6	18	28
Blewett Falls Canoe Portage	% within location	14.3	21.4	64.3	100
	% of Total	1.6	2.4	7.3	11.3
	Count	1	6	5	12
U.S. Highway 74 Site	% within location	8.3	50.0	41.7	100
	% of Total	.4	2.4	2.0	4.9
	Count	10	13	19	42
Informal Tailrace Access	% within location	23.8	31.0	45.2	100
	% of Total	4.0	5.3	7.7	17.0
	Count	10	12	21	43
Informal SR 1744 Site	% within location	23.3	27.9	48.8	100
	% of Total	4.0	4.9	8.5	17.4
	Count	3	1	0	4
Highway 109	% within location	75.0	25.0	.0	100
	% of Total	1.2	.4	.0	1.6
77.4.1	Count	57	66	124	247
Total	% of Total	23.1	26.7	50.2	100.0

Table 47 Level of concern for lake water levels at Blewett Falls Lake.

Level of Concern	Frequency	Percentage	
Low	80	24.2	
Medium	88	26.7	
High	162	49.1	
Total	330	100.0	
Did not address	381		
Total	711		

Table 48 Concern for lake water levels at Blewett Falls lake by location.

Survey Local	tion	Level	of Concern with	Lake Water l	Levels
Survey Local	uon	Low	Medium	High	Total
	Count	13	14	25	52
Blewett Tailwater Access Area	% within location	25.0	26.9	48.1	100
	% of Total	4.0	4.3	7.7	16.0
	Count	12	22	53	87
Pee Dee Access Area	% within location	13.8	25.3	60.9	100
	% of Total	3.7	6.7	16.3	26.7
	Count	11	9	26	46
Grassy Islands Access Area	% within location	23.9	19.6	56.5	100
	% of Total	3.4	2.8	8.0	14.1
	Count	13	4	8	25
Blewett Falls Canoe Portage	% within location	52.0	16.0	32.0	100
	% of Total	4.0	1.2	2.5	7.7
	Count	6	4	7	17
U.S. Highway 74 Site	% within location	35.3	23.5	41.2	100
	% of Total	1.8	1.2	2.1	5.2
	Count	11	16	23	50
Informal Tailrace Access	% within location	22.0	32.0	46.0	100
	% of Total	3.4	4.9	7.1	15.3
	Count	13	17	14	44
Informal SR 1744 Site	% within location	29.5	38.6	31.8	100
	% of Total	4.0	5.2	4.3	13.5
	Count	0	2	3	5
Highway 109	% within location	.0	40.0	60.0	100
-	% of Total	.0	.6	.9	1.5
	Count	79	88	159	326
Total	% of Total	24.2	27.0	48.8	100.0

Lake Tillery

Table 49 How crowded was Lake Tillery today by total respondents?

Level of Crowding at Lake Tillery	Frequency	Percentage	
Not Crowded	617	56.8	
Acceptable	398	36.6	
Very Crowded	71	6.5	
Total	1,086	100.0	
Did not address	123		
Total	1,209		

Table 50 Perceptions of crowding at Lake Tillery by location.

		Level of C	Crowding at La	ke Tillery	
Survey Location	Count	Not Crowded	Acceptable	Very Crowded	Total
	Count	21.0	8.0	4.0	33.0
Norwood Access Area	% within location	63.6	24.2	12.1	100.0
	% of Total	6.5	2.5	1.2	10.2
	Count	17.0	20.0	1.0	38.0
Stony Mountain Access	% within location	44.7	52.6	2.6	100.0
	% of Total	5.3	6.2	0.3	11.8
	Count	31.0	44.0	10.0	85.0
Swift Island Access	% within location	36.5	51.8	11.8	100.0
	% of Total	9.6	13.7	3.1	26.4
	Count	32.0	19.0	4.0	55.0
Lilly's Bridge Access	% within location	58.2	34.5	7.3	100.0
	% of Total	9.9	5.9	1.2	17.1
	Count	7.0	1.0	0.0	8.0
Informal SR 1740 & SR 1745	% within location	87.5	12.5	0.0	100.0
	% of Total	2.2	0.3	0.0	2.5
	Count	40.0	18.0	1.0	59.0
Morrow Mountain State Park	% within location	67.8	30.5	1.7	100.0
	% of Total	12.4	5.6	0.3	18.3
	Count	10.0	3.0	2.0	15.0
Tillery Canoe Portage	% within location	66.7	20.0	13.3	100.0
	% of Total	3.1	0.9	0.6	4.7
	Count	19.0	8.0	2.0	29.0
Informal Tailwater Access Area	% within location	65.5	27.6	6.9	100.0
	% of Total	5.9	2.5	0.6	9.0
Total	Count	177.0	121.0	24.0	322.0
	% within location	55.0	37.6	7.5	100.0
	% of Total	55.0	37.6	7. 5	100.0

Table 51 How crowded were the access points at Lake Tillery?

Level of Crowding at Lake Tillery	Frequency	Percentage	
Not Crowded	691	60.2	
Acceptable	399	34.8	
Very Crowded	58	5.1	
Total	1,148	100.0	
Did not address	61		
Total	1,209		

Table 52 Perceptions of crowding at access points by location at Lake Tillery.

		Level of C	rowding at Ac	owding at Access Points	
Survey Location	Count	Not Crowded	Acceptable	Very Crowded	Total
	Count	25.0	9.0	5.0	39.0
Norwood Access Area	% within location	64.1	23.1	12.8	100.0
	% of Total	7.3	2.6	1.5	11.4
	Count	22.0	20.0	1.0	43.0
Stony Mountain Access	% within location	51.2	46.5	2.3	100.0
	% of Total	6.4	5.8	0.3	12.6
	Count	36.0	39.0	11.0	86.0
Swift Island Access	% within location	41.9	45.3	12.8	100.0
	% of Total	10.5	11.4	3.2	25.1
	Count	37.0	16.0	1.0	54.0
Lilly's Bridge Access	% within location	68.5	29.6	1.9	100.0
	% of Total	10.8	4.7	0.3	15.8
	Count	9.0	2.0	0.0	11.0
Informal SR 1740 & SR 1745	% within location	81.8	18.2	0.0	100.0
	% of Total	2.6	0.6	0.0	3.2
	Count	43.0	17.0	2.0	62.0
Morrow Mountain State Park	% within location	69.4	27.4	3.2	100.0
	% of Total	12.6	5.0	0.6	18.1
	Count	11.0	7.0	0.0	18.0
Tillery Canoe Portage	% within location	61.1	38.9	0.0	100.0
	% of Total	3.2	2.0	0.0	5.3
	Count	18.0	9.0	2.0	29.0
Informal Tailwater Access Area	% within location	62.1	31.0	6.9	100.0
	% of Total	5.3	2.6	0.6	8.5
Total	Count	201.0	119.0	22.0	342.0
	% within location	58.8	34.8	6.4	100.0
	% of Total	58.8	34.8	6.4	100.0

Blewett Falls Lake

Table 53 How crowded was Blewett Falls Lake today by total respondents?

Level of Crowding at Blewett Falls Lake	Frequency	Percentage	
Not Crowded	418	65.2	
Acceptable	199	31.0	
Very Crowded	24	3.7	
Total	641	100.0	
Did not address	70		
Total	711		

Table 54 Perceptions of crowding at Blewett Falls Lake by location.

		Level of Cr	owding at Blew		
Survey Location	Count	Not Crowded	Acceptable	Very Crowded	Total
	Count	74	44	4	122
Blewett Tailwater Access Area	% within location	60.7	36.1	3.3	100.0
	% of Total	11.7	6.9	.6	19.2
	Count	107	40	8	155
Pee Dee Access Area	% within location	69.0	25.8	5.2	100.0
	% of Total	16.9	6.3	1.3	24.4
	Count	40	16	2	58
Grassy Islands Access Area	% within location	69.0	27.6	3.4	100.0
	% of Total	6.3	2.5	.3	9.1
	Count	43	18	4	65
Blewett Falls Canoe Portage	% within location	66.2	27.7	6.2	100.0
	% of Total	6.8	2.8	.6	10.2
	Count	38	8	1	47
U.S. Highway 74 Site	% within location	80.9	17.0	2.1	100.0
	% of Total	6.0	1.3	.2	7.4
	Count	63	36	0	99
Informal Tailrace Access	% within location	63.6	36.4	.0	100.0
	% of Total	9.9	5.7	.0	15.6
	Count	38	33	4	75
Informal SR 1744 Site	% within location	50.7	44.0	5.3	100.0
	% of Total	6.0	5.2	.6	11.8
	Count	11	2	1	14
Highway 109	% within location	78.6	14.3	7.1	100.0
	% of Total	1.7	.3	.2	2.2
Total	Count	414	197	24	635
	% within location	65.2	31.0	3.8	100.0
	% of Total	65.2	31.0	3.8	100.0

Table 55 How crowded were the access points at Blewett Falls Lake?

	Frequency	Percent	
Not crowded	432	60.8	
Acceptable	206	29.0	
Very crowded	24	3.4	
Total	662	93.1	
Did not address	49	6.9	
Total	711	100.0	

Table 56 Perceptions of crowding at access points by location at Blewett Falls Lake.

		Level of	evel of Crowding at Access Points		
Survey Location	Count	Not Crowded	Acceptable	Very Crowded	Total
	Count	76	48	3	127
Blewett Tailwater Access Area	% within location	59.8	37.8	2.4	100.0
	% of Total	11.6	7.3	.5	19.4
	Count	120	42	10	172
Pee Dee Access Area	% within location	69.8	24.4	5.8	100.0
	% of Total	18.3	6.4	1.5	26.2
	Count	41	18	1	60
Grassy Islands Access Area	% within location	68.3	30.0	1.7	100.0
	% of Total	6.3	2.7	.2	9.1
	Count	41	20	4	65
Blewett Falls Canoe Portage	% within location	63.1	30.8	6.2	100.0
	% of Total	6.3	3.0	.6	9.9
	Count	38	10	0	48
U.S. Highway 74 Site	% within location	79.2	20.8	.0	100.0
	% of Total	5.8	1.5	.0	7.3
	Count	63	34	1	98
Informal Tailrace Access	% within location	64.3	34.7	1.0	100.0
	% of Total	9.6	5.2	.2	14.9
	Count	36	31	4	71
Informal SR 1744 Site	% within location	50.7	43.7	5.6	100.0
	% of Total	5.5	4.7	.6	10.8
	Count	12	2	1	15
Highway 109	% within location	80.0	13.3	6.7	100.0
	% of Total	1.8	.3	.2	2.3
Total	Count	427	205	24	656
	% within location	65.1	31.3	3.7	100.0
	% of Total	65.1	31.3	3.7	100.0

Lake Tillery

Table 57 Condition of boat ramps/docks at Lake Tillery.

	_	Condition	of Boat Ram	ps/Docks	
Survey Locations		Very Good	Acceptable	Not Adequate	Total
	Count	48.0	48.0	10.0	106.0
Norwood Access Area	% within Survey location	45.3	45.3	9.4	100.0
	% of Total	5.8	5.8	1.2	12.8
	Count	22.0	27.0	0.0	49.0
Stony Mountain Access	% within Survey location	44.9	55.1	0.0	100.0
	% of Total	2.7	3.3	0.0	5.9
	Count	126.0	100.0	6.0	232.0
Swift Island Access	% within Survey location	54.3	43.1	2.6	100.0
	% of Total	15.3	12.1	0.7	28.1
	Count	126.0	44.0	1.0	171.0
Lilly's Bridge Access	% within Survey location	73.7	25.7	0.6	100.0
	% of Total	15.3	5.3	0.1	20.7
	Count	3.0	7.0	0.0	10.0
Informal SR 1740 & SR 1745	% within Survey location	30.0	70.0	0.0	100.0
	% of Total	0.4	0.8	0.0	1.2
	Count	127.0	59.0	7.0	193.0
Morrow Mountain State Park	% within Survey location	65.8	30.6	3.6	100.0
	% of Total	15.4	7.2	0.8	23.4
	Count	4.0	9.0	1.0	14.0
Tillery Canoe Portage	% within Survey location	28.6	64.3	7.1	100.0
	% of Total	0.5	1.1	0.1	1.7
	Count	12.0	28.0	10.0	50.0
Informal Tailwater Access Area	% within Survey location	24.0	56.0	20.0	100.0
	% of Total	1.5	3.4	1.2	6.1
Total	Count	468.0	322.0	35.0	825.0
	% of Total	56.7	39.0	4.2	100.0

Table 58 Condition of the parking lots at Lake Tillery.

	Conditi	on of the Park	ing lot		
Survey Locations		Very Good	Acceptable	Not Adequate	Total
	Count	57.0	44.0	3.0	104.0
Norwood Access Area	% within Survey location	54.8	42.3	2.9	100.0
	% of Total	6.2	4.8	0.3	11.3
	Count	30.0	35.0	1.0	66.0
Stony Mountain Access	% within Survey location	45.5	53.0	1.5	100.0
	% of Total	3.3	3.8	0.1	7.2
	Count	117.0	109.0	6.0	232.0
Swift Island Access	% within Survey location	50.4	47.0	2.6	100.0
	% of Total	12.8	11.9	0.7	25.3
	Count	122.0	51.0	0.0	173.0
Lilly's Bridge Access	% within Survey location	70.5	29.5	0.0	100.0
	% of Total	13.3	5.6	0.0	18.9
	Count	3.0	12.0	2.0	17.0
Informal SR 1740 & SR 1745	% within Survey location	17.6	70.6	11.8	100.0
	% of Total	0.3	1.3	0.2	1.9
	Count	173.0	72.0	4.0	249.0
Morrow Mountain State Park	% within Survey location	69.5	28.9	1.6	100.0
	% of Total	18.9	7.9	0.4	27.2
	Count	4.0	12.0	0.0	16.0
Tillery Canoe Portage	% within Survey location	25.0	75.0	0.0	100.0
	% of Total	0.4	1.3	0.0	1.7
	Count	19.0	37.0	4.0	60.0
Informal Tailwater Access Area	% within Survey location	31.7	61.7	6.7	100.0
	% of Total	2.1	4.0	0.4	6.5
TT - 4 - 1	Count	525.0	372.0	20.0	917.0
Total	% of Total	57.3	40.6	2.2	100.0

Table 59 Condition of marinas at Lake Tillery.

		Co	ondition of Mar	inas	
Survey Locations	-	Very Good	Acceptable	Not Adequate	Total
	Count	13.0	25.0	4.0	42.0
Norwood Access Area	% within Survey location	31.0	59.5	9.5	100.0
	% of Total	4.6	8.9	1.4	14.9
	Count	4.0	22.0	1.0	27.0
Stony Mountain Access	% within Survey location	14.8	81.5	3.7	100.0
	% of Total	1.4	7.8	0.4	9.6
	Count	29.0	41.0	7.0	77.0
Swift Island Access	% within Survey location	37.7	53.2	9.1	100.0
	% of Total	10.3	14.6	2.5	27.4
	Count	16.0	19.0	0.0	35.0
Lilly's Bridge Access	% within Survey location	45.7	54.3	0.0	100.0
	% of Total	5.7	6.8	0.0	12.5
	Count	1.0	3.0	0.0	4.0
Informal SR 1740 & SR 1745	% within Survey location	25.0	75.0	0.0	100.0
	% of Total	0.4	1.1	0.0	1.4
	Count	35.0	25.0	3.0	63.0
Morrow Mountain State Park	% within Survey location	55.6	39.7	4.8	100.0
	% of Total	12.5	8.9	1.1	22.4
	Count	1.0	8.0	1.0	10.0
Tillery Canoe Portage	% within Survey location	10.0	80.0	10.0	100.0
	% of Total	0.4	2.8	0.4	3.6
	Count	5.0	16.0	2.0	23.0
Informal Tailwater Access Area	% within Survey location	21.7	69.6	8.7	100.0
	% of Total	1.8	5.7	0.7	8.2
Total	Count	104.0	159.0	18.0	281.0
	% of Total	37.0	56.6	6.4	100.0

Table 60 Condition of campgrounds at Lake Tillery.

		Cond	lition of Campg	rounds	
Survey Locations		Very Good	Acceptable	Not Adequate	Total
	Count	16.0	19.0	1.0	36.0
Norwood Access Area	% within Survey location	44.4	52.8	2.8	100.0
	% of Total	4.4	5.2	0.3	9.9
	Count	7.0	17.0	5.0	29.0
Stony Mountain Access	% within Survey location	24.1	58.6	17.2	100.0
	% of Total	1.9	4.7	1.4	8.0
	Count	26.0	29.0	7.0	62.0
Swift Island Access	% within Survey location	41.9	46.8	11.3	100.0
	% of Total	7.2	8.0	1.9	17.1
	Count	12.0	11.0	0.0	23.0
Lilly's Bridge Access	% within Survey location	52.2	47.8	0.0	100.0
	% of Total	3.3	3.0	0.0	6.4
	Count	2.0	2.0	0.0	4.0
Informal SR 1740 & SR 1745	% within Survey location	50.0	50.0	0.0	100.0
	% of Total	0.6	0.6	0.0	1.1
	Count	132.0	38.0	3.0	173.0
Morrow Mountain State Park	% within Survey location	76.3	22.0	1.7	100.0
	% of Total	36.5	10.5	0.8	47.8
	Count	1.0	10.0	0.0	11.0
Tillery Canoe Portage	% within Survey location	9.1	90.9	0.0	100.0
	% of Total	0.3	2.8	0.0	3.0
	Count	8.0	15.0	1.0	24.0
Informal Tailwater Access Area	% within Survey location	33.3	62.5	4.2	100.0
	% of Total	2.2	4.1	0.3	6.6
T-4-1	Count	204.0	141.0	17.0	362.0
Total	% of Total	56.4	39.0	4.7	100.0

Table 61 Condition of toilets at Lake Tillery.

	•	(Condition of Toi	lets	
Survey Locations		Very Good	Acceptable	Not Adequate	Total
	Count	3.0	29.0	19.0	51.0
Norwood Access Area	% within Survey location	5.9	56.9	37.3	100.0
	% of Total	0.6	5.3	3.5	9.4
	Count	1.0	25.0	18.0	44.0
Stony Mountain Access	% within Survey location	2.3	56.8	40.9	100.0
	% of Total	0.2	4.6	3.3	8.1
	Count	11.0	62.0	42.0	115.0
Swift Island Access	% within Survey location	9.6	53.9	36.5	100.0
	% of Total	2.0	11.4	7.7	21.2
	Count	2.0	20.0	22.0	44.0
Lilly's Bridge Access	% within Survey location	4.5	45.5	50.0	100.0
	% of Total	0.4	3.7	4.1	8.1
	Count	0.0	8.0	3.0	11.0
Informal SR 1740 & SR 1745	% within Survey location	0.0	72.7	27.3	100.0
	% of Total	0.0	1.5	0.6	2.0
	Count	112.0	91.0	15.0	218.0
Morrow Mountain State Park	% within Survey location	51.4	41.7	6.9	100.0
	% of Total	20.6	16.8	2.8	40.1
	Count	0.0	15.0	3.0	18.0
Tillery Canoe Portage	% within Survey location	0.0	83.3	16.7	100.0
	% of Total	0.0	2.8	0.6	3.3
	Count	5.0	26.0	11.0	42.0
Informal Tailwater Access Area	% within Survey location	11.9	61.9	26.2	100.0
	% of Total	0.9	4.8	2.0	7.7
Total	Count	134.0	276.0	133.0	543.0
	% of Total	24.7	50.8	24.5	100.0

Table 62 Condition of fishing piers at Lake Tillery.

		Con	dition of Fishin	g Piers	
Survey Locations		Very Good	Acceptable	Not Adequate	Total
	Count	5.0	17.0	8.0	30.0
Norwood Access Area	% within Survey location	16.7	56.7	26.7	100.0
	% of Total	1.2	4.0	1.9	7.1
	Count	1.0	18.0	12.0	31.0
Stony Mountain Access	% within Survey location	3.2	58.1	38.7	100.0
	% of Total	0.2	4.3	2.8	7.3
	Count	17.0	31.0	4.0	52.0
Swift Island Access	% within Survey location	32.7	59.6	7.7	100.0
	% of Total	4.0	7.3	0.9	12.3
	Count	25.0	28.0	6.0	59.0
Lilly's Bridge Access	% within Survey location	42.4	47.5	10.2	100.0
	% of Total	5.9	6.6	1.4	13.9
	Count	0.0	8.0	6.0	14.0
Informal SR 1740 & SR 1745	% within Survey location	0.0	57.1	42.9	100.0
	% of Total	0.0	1.9	1.4	3.3
	Count	121.0	58.0	8.0	187.0
Morrow Mountain State Park	% within Survey location	64.7	31.0	4.3	100.0
	% of Total	28.6	13.7	1.9	44.2
	Count	1.0	14.0	3.0	18.0
Tillery Canoe Portage	% within Survey location	5.6	77.8	16.7	100.0
	% of Total	0.2	3.3	0.7	4.3
	Count	4.0	25.0	3.0	32.0
Informal Tailwater Access Area	% within Survey location	12.5	78.1	9.4	100.0
	% of Total	0.9	5.9	0.7	7.6
Total	Count	174.0	199.0	50.0	423.0
	% of Total	41.1	47.0	11.8	100.0

Table 63 Condition of signage at Lake Tillery.

Survey Location		Condition of Signage			
Survey	Location	Very Good	Acceptable	Not Adequate	Total
	Count	19.0	55.0	3.0	77.0
Norwood Access Area	% within Survey location	24.7	71.4	3.9	100.0
	% of Total	2.5	7.3	0.4	10.2
	Count	4.0	42.0	4.0	50.0
Stony Mountain Access	% within Survey location	8.0	84.0	8.0	100.0
	% of Total	0.5	5.5	0.5	6.6
	Count	41.0	96.0	15.0	152.0
Swift Island Access	% within Survey location	27.0	63.2	9.9	100.0
	% of Total	5.4	12.7	2.0	20.1
	Count	72.0	62.0	10.0	144.0
Lilly's Bridge Access	% within Survey location	50.0	43.1	6.9	100.0
	% of Total	9.5	8.2	1.3	19.0
Informal SR 1740 & SR	Count	0.0	12.0	3.0	15.0
1745	% within Survey location	0.0	80.0	20.0	100.0
1743	% of Total	0.0	1.6	0.4	2.0
Morrow Mountain State	Count	161.0	87.0	5.0	253.0
Park	% within Survey location	63.6	34.4	2.0	100.0
Tark	% of Total	21.2	11.5	0.7	33.4
	Count	2.0	16.0	4.0	22.0
Tillery Canoe Portage	% within Survey location	9.1	72.7	18.2	100.0
	% of Total	0.3	2.1	0.5	2.9
Informal Tailwater	Count	5.0	37.0	3.0	45.0
Access Area	% within Survey location	11.1	82.2	6.7	100.0
Access Area	% of Total	0.7	4.9	0.4	5.9
	Count	304.0	407.0	47.0	758.0
Total	% of Total	40.1	53.7	6.2	100.0

Table 64 Summary of types of additional comments - Lake Tillery.

Comment Topics	Frequency	Percentage
Toilets	102	16.8
Trash	72	11.9
Toilets and trash cans	8	1.3
Boat ramp	26	4.3
Campground	22	3.6
Parking	22	3.6
Access	45	7.4
Fishing/fish stock	25	4.1
Lighting	21	3.5
Jet skis	47	7.7
Picnic/BBQ/recreation facilities	47	7.7
Signage	22	3.6
Law enforcement/security	10	1.6
Lake water levels/fluctuations	21	3.5
Safety	8	1.3
Debris/maintenance	15	2.5
Marinas	9	1.5
Recreation equipment rental	5	.8
Crowds	2	.3
Pier/dock	38	6.3
Restaurant/bait shop/store	39	6.4
Hunting	1	.2
Total	607	100.0
General Comments	148	
Did not address	454	

Blewett Falls Lake

Table 65 Condition of boat ramps/docks at Blewett Falls Lake.

		Conditi	on of Boat Ram	ps/Docks	
Survey Lo	Very Good	Acceptable	Not Adequate	Total	
	Count	28	41	6	75
Blewett Tailwater Access Area	% within Survey location	37.3	54.7	8.0	100.0
	% of Total	5.6	8.1	1.2	14.9
	Count	79	71	17	167
Pee Dee Access Area	% within Survey location	47.3	42.5	10.2	100.0
	% of Total	15.7	14.1	3.4	33.1
	Count	27	29	3	59
Grassy Islands Access Area	% within Survey location	45.8	49.2	5.1	100.0
<u>,</u>	% of Total	5.4	5.8	.6	11.7
	Count	10	19	6	35
Blewett Falls Canoe Portage	% within Survey location	28.6	54.3	17.1	100.0
	% of Total	2.0	3.8	1.2	6.9
	Count	15	22	2	39
U.S. Highway 74 Site	% within Survey location	38.5	56.4	5.1	100.0
	% of Total	3.0	4.4	.4	7.7
	Count	12	35	17	64
Informal Tailrace Access	% within Survey location	18.8	54.7	26.6	100.0
	% of Total	2.4	6.9	3.4	12.7
	Count	14	33	5	52
Informal SR 1744 Site	% within Survey location	26.9	63.5	9.6	100.0
	% of Total	2.8	6.5	1.0	10.3
	Count	4	9	0	13
Highway 109	% within Survey location	30.8	69.2	.0	100.0
	% of Total	.8	1.8	.0	2.6
m . 1	Count	189	259	56	504
Total	% of Total	37.5	51.4	11.1	100.0

Table 66 Condition of parking lots at Blewett Falls Lake.

		Condi	tion of the Park	ing Lot	
Survey Lo	Very Good	Acceptable	Not Adequate	Total	
	Count	56	52	4	112
Blewett Tailwater Access Area	% within Survey location	50.0	46.4	3.6	100.0
	% of Total	9.5	8.8	.7	19.0
	Count	87	71	12	170
Pee Dee Access Area	% within Survey location	51.2	41.8	7.1	100.0
	% of Total	14.7	12.0	2.0	28.8
	Count	30	27	0	57
Grassy Islands Access Area	% within Survey location	52.6	47.4	.0	100.0
·	% of Total	5.1	4.6	.0	9.6
	Count	17	27	12	56
Blewett Falls Canoe Portage	% within Survey location	30.4	48.2	21.4	100.0
	% of Total	2.9	4.6	2.0	9.5
	Count	20	22	1	43
U.S. Highway 74 Site	% within Survey location	46.5	51.2	2.3	100.0
	% of Total	3.4	3.7	.2	7.3
	Count	26	44	12	82
Informal Tailrace Access	% within Survey location	31.7	53.7	14.6	100.0
	% of Total	4.4	7.4	2.0	13.9
	Count	11	38	8	57
Informal SR 1744 Site	% within Survey location	19.3	66.7	14.0	100.0
	% of Total	1.9	6.4	1.4	9.6
	Count	4	10	0	14
Highway 109	% within Survey location	28.6	71.4	.0	100.0
	% of Total	.7	1.7	.0	2.4
m . 1	Count	251	291	49	591
Total	% of Total	42.5	49.2	8.3	100.0

Table 67 Condition of campgrounds at Blewett Falls Lake.

		Cond	ition of Campg	rounds	
Survey Lo	Very Good	Acceptable	Not Adequate	Total	
	Count	10	18	5	33
Blewett Tailwater Access Area	% within Survey location	30.3	54.5	15.2	100.0
	% of Total	6.1	11.0	3.0	20.1
	Count	4	11	6	21
Pee Dee Access Area	% within Survey location	19.0	52.4	28.6	100.0
	% of Total	2.4	6.7	3.7	12.8
	Count	3	6	9	18
Grassy Islands Access Area	% within Survey location	16.7	33.3	50.0	100.0
	% of Total	1.8	3.7	5.5	11.0
	Count	4	7	12	23
Blewett Falls Canoe Portage	% within Survey location	17.4	30.4	52.2	100.0
	% of Total	2.4	4.3	7.3	14.0
	Count	3	4	3	10
U.S. Highway 74 Site	% within Survey location	30.0	40.0	30.0	100.0
	% of Total	1.8	2.4	1.8	6.1
	Count	5	11	8	24
Informal Tailrace Access	% within Survey location	20.8	45.8	33.3	100.0
	% of Total	3.0	6.7	4.9	14.6
	Count	8	8	15	31
Informal SR 1744 Site	% within Survey location	25.8	25.8	48.4	100.0
	% of Total	4.9	4.9	9.1	18.9
	Count	2	1	1	4
Highway 109	% within Survey location	50.0	25.0	25.0	100.0
- •	% of Total	1.2	.6	.6	2.4
	Count	39	66	59	164
Total	% of Total	23.8	40.2	36.0	100.0

Table 68 Condition of toilets at Blewett Falls Lake.

		C	ondition of Toil	lets	
Survey Loc	cations	Very Good	Acceptable	Not Adequate	Total
	Count	4	32	44	80
Blewett Tailwater Access Area	% within Survey location	5.0	40.0	55.0	100.0
	% of Total	1.3	10.4	14.3	26.0
	Count	3	23	29	55
Pee Dee Access Area	% within Survey location	5.5	41.8	52.7	100.0
	% of Total	1.0	7.5	9.4	17.9
	Count	1	7	9	17
Grassy Islands Access Area	% within Survey location	5.9	41.2	52.9	100.0
	% of Total	.3	2.3	2.9	5.5
	Count	3	14	17	34
Blewett Falls Canoe Portage	% within Survey location	8.8	41.2	50.0	100.0
	% of Total	1.0	4.5	5.5	11.0
	Count	1	10	4	15
U.S. Highway 74 Site	% within Survey location	6.7	66.7	26.7	100.0
	% of Total	.3	3.2	1.3	4.9
	Count	1	33	26	60
Informal Tailrace Access	% within Survey location	1.7	55.0	43.3	100.0
	% of Total	.3	10.7	8.4	19.5
	Count	1	12	28	41
Informal SR 1744 Site	% within Survey location	2.4	29.3	68.3	100.0
	% of Total	.3	3.9	9.1	13.3
	Count	1	4	1	6
Highway 109	% within Survey location	16.7	66.7	16.7	100.0
	% of Total	.3	1.3	.3	1.9
TF 4.1	Count	15	135	158	308
Total	% of Total	4.9	43.8	51.3	100.0

Table 69 Condition of fishing piers at Blewett Falls Lake.

		Con	dition of fishing	piers	
Survey Loc	Very Good	Acceptable	Not Adequate	Total	
	Count	38	56	6	100
Blewett Tailwater Access Area	% within Survey location	38.0	56.0	6.0	100.0
	% of Total	13.3	19.6	2.1	35.0
	Count	5	13	10	28
Pee Dee Access Area	% within Survey location	17.9	46.4	35.7	100.0
	% of Total	1.7	4.5	3.5	9.8
	Count	2	4	5	11
Grassy Islands Access Area	% within Survey location	18.2	36.4	45.5	100.0
	% of Total	.7	1.4	1.7	3.8
	Count	3	13	13	29
Blewett Falls Canoe Portage	% within Survey location	10.3	44.8	44.8	100.0
	% of Total	1.0	4.5	4.5	10.1
	Count	5	9	2	16
U.S. Highway 74 Site	% within Survey location	31.3	56.3	12.5	100.0
	% of Total	1.7	3.1	.7	5.6
	Count	19	35	11	65
Informal Tailrace Access	% within Survey location	29.2	53.8	16.9	100.0
	% of Total	6.6	12.2	3.8	22.7
	Count	4	14	11	29
Informal SR 1744 Site	% within Survey location	13.8	48.3	37.9	100.0
	% of Total	1.4	4.9	3.8	10.1
	Count	2	6	0	8
Highway 109	% within Survey location	25.0	75.0	.0	100.0
	% of Total	.7	2.1	.0	2.8
TT - 4 - 1	Count	78	150	58	286
Total	% of Total	27.3	52.4	20.3	100.0

Table 70 Condition of signage at Blewett Falls Lake.

		C	ondition of Sign	age	
Survey Lo	Very Good	Acceptable	Not Adequate	Total	
	Count	14	66	5	85
Blewett Tailwater Access Area	% within Survey location	16.5	77.6	5.9	100.0
	% of Total	3.8	17.7	1.3	22.8
	Count	17	47	6	70
Pee Dee Access Area	% within Survey location	24.3	67.1	8.6	100.0
	% of Total	4.6	12.6	1.6	18.8
	Count	8	22	3	33
Grassy Islands Access Area	% within Survey location	24.2	66.7	9.1	100.0
	% of Total	2.1	5.9	.8	8.8
	Count	5	33	6	44
Blewett Falls Canoe Portage	% within Survey location	11.4	75.0	13.6	100.0
	% of Total	1.3	8.8	1.6	11.8
	Count	11	17	0	28
U.S. Highway 74 Site	% within Survey location	39.3	60.7	.0	100.0
	% of Total	2.9	4.6	.0	7.5
	Count	11	39	10	60
Informal Tailrace Access	% within Survey location	18.3	65.0	16.7	100.0
	% of Total	2.9	10.5	2.7	16.1
	Count	5	30	7	42
Informal SR 1744 Site	% within Survey location	11.9	71.4	16.7	100.0
	% of Total	1.3	8.0	1.9	11.3
	Count	3	8	0	11
Highway 109	% within Survey location	27.3	72.7	.0	100.0
	% of Total	.8	2.1	.0	2.9
Total	Count	74	262	37	373
Total	% of Total	19.8	70.2	9.9	100.0

Table 71 Summary of types of additional comments - Blewett Falls Lake.

Comments/Concerns	Frequency	Percentage
Toilets	127	24.2
Trash	45	8.6
Toilets and trash cans	3	.6
Boat ramp	51	9.7
Campground	49	9.4
Parking	21	4.0
Access	37	7.1
Fishing/fish stock	27	5.2
Lighting	20	3.8
Jet skis	2	.4
Picnic/BBQ/recreation facilities	20	3.8
Signage	7	1.3
Law enforcement/security	8	1.5
Lake water levels/fluctuations	68	13.0
Safety	4	.8
Debris/maintenance	19	3.6
Marinas	4	.8
Recreation equipment rental	2	.4
Crowds	1	.2
Pier/dock	4	.8
Restaurant/bait shop/store	1	.2
Hunting	4	.8
Total	524	100.0
General Comments	24	
Did not address	163	

Table 72 Estimated expenses by month at Lake Tillery.

Month		Lodging	Gas	Food	Equipment Rental	Bait and Tackle	Other Services
January	Mean	\$0.00	\$8.82	\$1.36	\$0.00	\$1.73	\$1.36
	Maximum	\$0.00	\$15.00	\$15.00	\$0.00	\$6.00	\$15.00
February	Mean	\$0.00	\$10.64	\$2.00	\$0.00	\$1.18	\$0.00
	Maximum	\$0.00	\$25.00	\$20.00	\$0.00	\$5.00	\$0.00
March	Mean	\$0.60	\$11.52	\$4.76	\$0.00	\$5.03	\$0.60
	Maximum	\$15.00	\$30.00	\$35.00	\$0.00	\$35.00	\$15.00
April	Mean	\$5.64	\$16.27	\$11.93	\$0.62	\$7.99	\$1.83
	Maximum	\$600.00	\$100.00	\$300.00	\$60.00	\$100.00	\$150.00
May	Mean	\$2.84	\$22.82	\$15.44	\$0.20	\$4.31	\$2.41
	Maximum	\$100.00	\$150.00	\$300.00	\$15.00	\$70.00	\$150.00
June	Mean	\$0.97	\$17.83	\$16.64	\$0.00	\$4.12	\$2.23
	Maximum	\$28.00	\$200.00	\$300.00	\$0.00	\$38.00	\$53.00
July	Mean	\$4.91	\$22.19	\$24.00	\$0.61	\$4.20	\$5.77
	Maximum	\$150.00	\$150.00	\$400.00	\$75.00	\$100.00	\$1,000.00
August	Mean	\$1.93	\$15.37	\$11.30	\$0.14	\$4.21	\$0.89
	Maximum	\$75.00	\$100.00	\$100.00	\$10.00	\$50.00	\$25.00
September	Mean	\$2.73	\$22.39	\$16.61	\$0.07	\$4.97	\$2.72
	Maximum	\$160.00	\$150.00	\$150.00	\$10.00	\$40.00	\$125.00
October	Mean	\$1.90	\$19.04	\$5.72	\$0.29	\$3.62	\$0.19
	Maximum	\$140.00	\$100.00	\$50.00	\$30.00	\$25.00	\$15.00
November	Mean	\$0.47	\$13.78	\$2.78	\$0.00	\$3.22	\$0.00
	Maximum	\$15.00	\$100.00	\$20.00	\$0.00	\$15.00	\$0.00
December	Mean	\$0.00	\$12.30	\$1.40	\$0.00	\$2.20	\$0.00
	Maximum	\$0.00	\$35.00	\$8.00	\$0.00	\$11.00	\$0.00
Total	Mean	\$3.29	\$19.72	\$15.02	\$0.32	\$4.75	\$2.68
	Maximum	\$600.00	\$200.00	\$400.00	\$75.00	\$100.00	\$1,000.00

Table 73 Estimated expenses by location at Lake Tillery.

Survey location		Lodging	Gas	Food	Equipment Rental	Bait and Tackle	Other services
NY 1 A A	Mean	\$1.27	\$20.59	\$7.19	\$0.00	\$4.07	\$2.18
Norwood Access Area	Maximum	\$140.00	\$100.00	\$200.00	\$0.00	\$50.00	\$125.00
Stan Manual's Assess	Mean	\$0.00	\$17.07	\$11.67	\$0.00	\$6.80	\$4.23
Stony Mountain Access	Maximum	\$0.00	\$200.00	\$300.00	\$0.00	\$100.00	\$150.00
C. C. I.I. A.	Mean	\$1.47	\$27.79	\$11.17	\$0.00	\$3.32	\$2.57
Swift Island Access	Maximum	\$160.00	\$150.00	\$150.00	\$0.00	\$60.00	\$150.00
T.11 1 D.11 A	Mean	\$0.14	\$25.90	\$16.02	\$0.00	\$5.18	\$0.52
Lilly's Bridge Access	Maximum	\$20.00	\$150.00	\$300.00	\$0.00	\$100.00	\$40.00
I. C 1 CD 1740 0 CD 1745	Mean	\$0.00	\$5.18	\$2.50	\$0.00	\$5.95	\$0.64
Informal SR 1740 & SR 1745	Maximum	\$0.00	\$20.00	\$20.00	\$0.00	\$40.00	\$15.00
M. M. C. C. D. I	Mean	\$10.51	\$16.03	\$26.71	\$1.16	\$4.50	\$5.11
Morrow Mountain State Park	Maximum	\$600.00	\$120.00	\$400.00	\$75.00	\$75.00	\$1,000.00
Trill C P	Mean	\$0.54	\$6.72	\$14.01	\$0.54	\$7.70	\$1.92
Tillery Canoe Portage	Maximum	\$20.00	\$25.00	\$100.00	\$20.00	\$45.00	\$53.00
XX 1	Mean	\$0.00	\$5.00	\$5.00	\$0.00	\$2.50	\$0.00
Woodrun	Maximum	\$0.00	\$5.00	\$5.00	\$0.00	\$2.50	\$0.00
Informal Tailwater Access	Mean	\$0.00	\$7.12	\$4.34	\$0.00	\$5.76	\$0.59
Area	Maximum	\$0.00	\$60.00	\$50.00	\$0.00	\$40.00	\$30.00
TD 4.1	Mean	\$3.27	\$19.65	\$15.01	\$0.32	\$4.73	\$2.69
Total	Maximum	\$600.00	\$200.00	\$400.00	\$75.00	\$100.00	\$1,000.00

Table 74 Estimated expenses by month on Blewett Falls Lake.

Month		Lodging	Gas	Food	Equipment Rental	Bait and Tackle	Other Services
January	Mean	\$0.00	\$8.00	\$2.50	\$0.00	\$0.00	\$10.00
	Maximum	\$0.00	\$10.00	\$5.00	\$0.00	\$0.00	\$20.00
February	Mean	\$0.00	\$6.33	\$0.00	\$0.00	\$3.67	\$0.00
	Maximum	\$0.00	\$12.00	\$0.00	\$0.00	\$8.00	\$0.00
March	Mean	\$0.00	\$6.22	\$2.14	\$0.00	\$3.72	\$0.00
	Maximum	\$0.00	\$13.00	\$10.00	\$0.00	\$10.00	\$0.00
April	Mean	\$0.05	\$12.06	\$9.69	\$0.00	\$12.63	\$2.99
	Maximum	\$10.00	\$200.00	\$150.00	\$0.00	\$1,000.00	\$140.00
May	Mean	\$0.13	\$18.10	\$9.31	\$0.05	\$4.53	\$0.92
	Maximum	\$20.00	\$500.00	\$100.00	\$5.00	\$30.00	\$50.00
June	Mean	\$0.00	\$16.56	\$12.20	\$0.06	\$4.64	\$45.46
	Maximum	\$0.00	\$75.00	\$75.00	\$3.00	\$20.00	\$2,084.00
July	Mean	\$0.00	\$20.35	\$18.44	\$0.00	\$3.42	\$1.53
	Maximum	\$0.00	\$250.00	\$250.00	\$0.00	\$30.00	\$45.00
August	Mean	\$0.00	\$9.69	\$5.80	\$0.00	\$4.79	\$0.39
	Maximum	\$0.00	\$45.00	\$60.00	\$0.00	\$40.00	\$16.00
September	Mean	\$0.00	\$11.29	\$6.55	\$0.00	\$4.22	\$0.45
	Maximum	\$0.00	\$55.00	\$50.00	\$0.00	\$39.00	\$25.00
October	Mean	\$0.00	\$8.59	\$2.20	\$0.00	\$4.38	\$0.54
	Maximum	\$0.00	\$35.00	\$10.00	\$0.00	\$25.00	\$20.00
November	Mean	\$0.00	\$10.82	\$2.94	\$0.00	\$3.75	\$1.65
	Maximum	\$0.00	\$25.00	\$35.00	\$0.00	\$10.00	\$15.00
December	Mean	\$0.00	\$9.22	\$3.70	\$0.00	\$3.78	\$3.50
	Maximum	\$0.00	\$15.00	\$10.00	\$0.00	\$11.00	\$17.00
Total	Mean	\$0.04	\$14.10	\$9.46	\$0.01	\$6.61	\$4.62
	Maximum	\$20.00	\$500.00	\$250.00	\$5.00	\$1,000.00	\$2,084.00

Table 75 Estimated expenses by location on Blewett Falls Lake.

Survey location		Lodging	Gas	Food	Equipment Rental	Bait and Tackle	Other services
Blewett Tailwater Access Area	Mean	\$0.00	\$7.32	\$5.05	\$0.00	\$5.42	\$0.81
	Maximum	\$0.00	\$65.00	\$75.00	\$0.00	\$30.00	\$50.00
Pee Dee Access Area	Mean	\$0.00	\$27.50	\$12.24	\$0.01	\$4.16	\$0.90
	Maximum	\$0.00	\$500.00	\$250.00	\$2.00	\$100.00	\$50.00
Grassy Islands Access Area	Mean	\$0.00	\$11.64	\$7.31	\$0.05	\$4.54	\$4.70
	Maximum	\$0.00	\$60.00	\$100.00	\$3.00	\$30.00	\$80.00
Blewett Falls Canoe Portage	Mean	\$0.00	\$8.00	\$13.75	\$0.00	\$8.08	\$0.90
	Maximum	\$0.00	\$48.00	\$100.00	\$0.00	\$300.00	\$25.00
U.S. Highway 74 Site	Mean	\$0.00	\$10.32	\$5.33	\$0.00	\$4.44	\$0.73
	Maximum	\$0.00	\$55.00	\$25.00	\$0.00	\$39.00	\$25.00
Informal Tailrace Access	Mean	\$0.20	\$9.74	\$4.66	\$0.05	\$5.65	\$22.65
	Maximum	\$20.00	\$200.00	\$40.00	\$5.00	\$26.00	\$2,084.00
Informal SR 1744 Site	Mean	\$0.13	\$12.36	\$19.50	\$0.00	\$18.03	\$2.35
	Maximum	\$10.00	\$70.00	\$150.00	\$0.00	\$1,000.00	\$35.00
Highway 109	Mean	\$0.00	\$9.20	\$2.82	\$0.00	\$2.93	\$3.33
	Maximum	\$0.00	\$20.00	\$10.00	\$0.00	\$14.00	\$45.00
Total	Mean	\$0.04	\$14.15	\$9.51	\$0.01	\$6.59	\$4.62
	Maximum	\$20.00	\$500.00	\$250.00	\$5.00	\$1,000.00	\$2,084.00

2004 to 2005 Resident Survey

Table 76 Frequency of Lake Tillery resident respondents per month.

Survey Months	Frequency	Percent of Surveys Sent (n=400)	Percentage of Total Respondents (n=2106)
January-05	186.0	47	8.8
February-05	169.0	42	8.0
March-05	177.0	44	8.4
May-04	219.0	55	10.4
June-04	191.0	48	9.1
July-04	197.0	49	9.4
August-04	191.0	48	9.1
September-04	214.0	54	10.2
October-04	187.0	47	8.9
November-04	177.0	44	8.4
December-04	198.0	49	9.4
Total	2,106.0		100.0

Table 77 Frequency of Blewett Falls Lake resident respondents per month.

Survey Period	Frequency	Percent of Surveys Sent (n=400)	Percent of Total Respondents (n=21)
January-05	3	100	14.3
February-05	3	100	14.3
March-05	2	67	9.5
May-04	2	67	9.5
June-04	2	67	9.5
July-04	1	33	4.8
August-04	3	100	14.3
September-04	3	100	14.3
October-04	1	33	4.8
November-04	1	33	4.8
December-04	0	0	0
Total	21		100.0

Table 78 Lake Tillery resident's number of days at the lake.

]	Days at the	Lake		
Survey Month	Count	1-7	8-14	15-21	22-31	NT	Total
		Days	Days	Days	Days	None	
January	Count	42.0	12.0	8.0	67.0	52.0	181.0
	% within Survey period	23.2	6.6	4.4	37.0	28.7	100.0
	% of Total	2.0	0.6	0.4	3.3	2.5	8.8
February	Count	41.0	11.0	2.0	64.0	49.0	167.0
	% within Survey period	24.6	6.6	1.2	38.3	29.3	100.0
	% of Total	2.0	0.5	0.1	3.1	2.4	8.1
March	Count	54.0	23.0	4.0	60.0	35.0	176.0
	% within Survey period	30.7	13.1	2.3	34.1	19.9	100.0
	% of Total	2.6	1.1	0.2	2.9	1.7	8.6
May	Count	65.0	35.0	20.0	82.0	13.0	215.0
	% within Survey period	30.2	16.3	9.3	38.1	6.0	100.0
	% of Total	3.2	1.7	1.0	4.0	0.6	10.5
June	Count	40.0	41.0	22.0	72.0	8.0	183.0
	% within Survey period	21.9	22.4	12.0	39.3	4.4	100.0
	% of Total	1.9	2.0	1.1	3.5	0.4	8.9
July	Count	44.0	45.0	25.0	73.0	5.0	192.0
	% within Survey period	22.9	23.4	13.0	38.0	2.6	100.0
	% of Total	2.1	2.2	1.2	3.6	0.2	9.4
August	Count	39.0	40.0	15.0	75.0	13.0	182.0
	% within Survey period	21.4	22.0	8.2	41.2	7.1	100.0
	% of Total	1.9	1.9	0.7	3.7	0.6	8.9
September	Count	73.0	35.0	17.0	69.0	16.0	210.0
	% within Survey period	34.8	16.7	8.1	32.9	7.6	100.0
	% of Total	3.6	1.7	0.8	3.4	0.8	10.2
October	Count	65.0	21.0	17.0	60.0	20.0	183.0
	% within Survey period	35.5	11.5	9.3	32.8	10.9	100.0
	% of Total	3.2	1.0	0.8	2.9	1.0	8.9
November	Count	54.0	14.0	6.0	72.0	26.0	172.0
	% within Survey period	31.4	8.1	3.5	41.9	15.1	100.0
	% of Total	2.6	0.7	0.3	3.5	1.3	8.4
December	Count	53.0	19.0	7.0	75.0	37.0	191.0
	% within Survey period	27.7	9.9	3.7	39.3	19.4	100.0
	% of Total	2.6	0.9	0.3	3.7	1.8	9.3
Total	Count	570.0	296.0	143.0	769.0	274.0	2052.0
	% of Total	27.8	14.4	7.0	37.5	13.4	100.0

Table 79 Blewett Falls Lake resident's number of days at the lake.

			Days a	at the lake		
	Survey Month	1-7	8-14	15-21	22-31	Total
		Days	Days	Days	Days	
January	Count	2	1	0	0	3
	% within Survey period	66.7	33.3	.0	.0	100.0
	% of Total	10.0	5.0	.0	.0	15.0
February	Count	1	0	0	1	2
	% within Survey period	50.0	.0	.0	50.0	100.0
	% of Total	5.0	.0	.0	5.0	10.0
March	Count	1	1	0	0	2
	% within Survey period	50.0	50.0	.0	.0	100.0
	% of Total	5.0	5.0	.0	.0	10.0
May	Count	1	0	0	1	2
	% within Survey period	50.0	.0	.0	50.0	100.0
	% of Total	5.0	.0	.0	5.0	10.0
June	Count	1	0	1	0	2
	% within Survey period	50.0	.0	50.0	.0	100.0
	% of Total	5.0	.0	5.0	.0	10.0
July	Count	0	0	0	1	1
	% within Survey period	.0	.0	.0	100.0	100.0
	% of Total	.0	.0	.0	5.0	5.0
August	Count	1	1	1	0	3
_	% within Survey period	33.3	33.3	33.3	.0	100.0
	% of Total	5.0	5.0	5.0	.0	15.0
September	Count	1	1	1	0	3
	% within Survey period	33.3	33.3	33.3	.0	100.0
	% of Total	5.0	5.0	5.0	.0	15.0
October	Count	1	0	0	0	1
	% within Survey period	100.0	.0	.0	.0	100.0
	% of Total	5.0	.0	.0	.0	5.0
November	Count	0	0	0	1	1
November	% within Survey period	.0	.0	.0	100.0	100.0
	% of Total	.0	.0	.0	5.0	5.0
Total	Count	9	4	3	4	20
	% of Total	45.0	20.0	15.0	20.0	100.0

Table 80 Lake Tillery residents - number of adults.

# .	of Adults					Sur	vey pe	riod					Total
# (of Addits	Jan	Feb	Mar	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1-5	Count	180.0	151.0	138.0	205.0	161.0	168.0	174.0	184.0	169.0	169.0	180.0	1,879
	% within	9.6	8.0	7.3	10.9	8.6	8.9	9.3	9.8	9.0	9.0	9.6	100
	% of Total	9.0	7.5	6.9	10.2	8.0	8.4	8.7	9.2	8.4	8.4	9.0	93.7
6-10	Count	2.0	2.0	7.0	9.0	19.0	23.0	10.0	19.0	10.0	3.0	4.0	108.0
	% within	1.9	1.9	6.5	8.3	17.6	21.3	9.3	17.6	9.3	2.8	3.7	100.0
	% of Total	0.1	0.1	0.3	0.4	0.9	1.1	0.5	0.9	0.5	0.1	0.2	5.4
11-15	Count	1.0	0.0	0.0	0.0	1.0	3.0	3.0	2.0	0.0	0.0	0.0	10.0
	% within	10.0	0.0	0.0	0.0	10.0	30.0	30.0	20.0	0.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.5
16-20	Count	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0
	% within	0.0	0.0	0.0	33.3	33.3	33.3	0.0	0.0	0.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
21-25	Count	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	2.0
	% within	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26-30	Count	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	2.0
	% within	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
46-50	Count	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0
	% within	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<u>≥</u> 51	Count	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
	% within	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	Count	183.0	153.0	145.0	215.0	183.0	195.0	189.0	206.0	181.0	172.0	184.0	2,006.0
	% within	9.1	7.6	7.2	10.7	9.1	9.7	9.4	10.3	9.0	8.6	9.2	100.0
	% of Total	9.1	7.6	7.2	10.7	9.1	9.7	9.4	10.3	9.0	8.6	9.2	100.0

Table 81 Lake Tillery residents - number of children.

	e Cl 11 1					Sur	vey per	riod					7D 4 1
# 01	f Children	Jan	Feb	Mar	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1-5	Count	182.0	151.0	141.0	212.0	178.0	189.0	183.0	201.0	180.0	172.0	184.0	1,973.0
	% within	9.2	7.7	7.1	10.7	9.0	9.6	9.3	10.2	9.1	8.7	9.3	100.0
	% of Total	9.1	7.5	7.0	10.6	8.9	9.4	9.1	10.0	9.0	8.6	9.2	98.6
6-10	Count	1.0	1.0	2.0	2.0	2.0	4.0	4.0	2.0	1.0	0.0	0.0	19.0
	% within	5.3	5.3	10.5	10.5	10.5	21.1	21.1	10.5	5.3	0.0	0.0	100.0
	% of Total	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.9
11-15	Count	0.0	0.0	0.0	1.0	1.0	1.0	2.0	1.0	0.0	0.0	0.0	6.0
	% within	0.0	0.0	0.0	16.7	16.7	16.7	33.3	16.7	0.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3
16-20	Count	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
	% within	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-25	Count	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0
	% within	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31-35	Count	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0
	% within	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<u>≥</u> 51	Count	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
	% within	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	Count	183.0	152.0	143.0	215.0	182.0	194.0	189.0	206.0	181.0	172.0	185.0	2,002.0
	% of Total	9.1	7.6	7.1	10.7	9.1	9.7	9.4	10.3	9.0	8.6	9.2	100.0

Table 82 Blewett Falls Lake residents - number of adults.

	# Adults					Su	rvey p	eriod				
	# Addits	Jan	Feb	Mar	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
0	Count	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
	% within adults	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	% of Total	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
1-5	Count	2.0	2.0	2.0	2.0	2.0	1.0	3.0	2.0	1.0	1.0	18.0
	% within adults	11.1	11.1	11.1	11.1	11.1	5.6	16.7	11.1	5.6	5.6	100.0
	% of Total	10.0	10.0	10.0	10.0	10.0	5.0	15.0	10.0	5.0	5.0	90.0
6-10	Count	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0
	% within adults	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
	% of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	5.0
Total	Count	3.0	2.0	2.0	2.0	2.0	1.0	3.0	3.0	1.0	1.0	20.0
	% within f adults	15.0	10.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	5.0	100.0
	% of Total	15.0	10.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	5.0	100.0

Table 83 Blewett Falls Lake residents - number of children.

+	# Children		Survey period										
π	Cinidi en	Jan	Feb	Mar	May	Jun	Jul	Aug	Sep	Oct	Nov	Total	
0	Count	2.0	2.0	1.0	0.0	1.0	1.0	2.0	2.0	0.0	1.0	12.0	
	% within child size	16.7	16.7	8.3	0.0	8.3	8.3	16.7	16.7	0.0	8.3	100.0	
	% of Total	10.0	10.0	5.0	0.0	5.0	5.0	10.0	10.0	0.0	5.0	60.0	
1-5	Count	1.0	0.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	8.0	
	% within child size	12.5	0.0	12.5	25.0	12.5	0.0	12.5	12.5	12.5	0.0	100.0	
	% of Total	5.0	0.0	5.0	10.0	5.0	0.0	5.0	5.0	5.0	0.0	40.0	
Total	Count	3.0	2.0	2.0	2.0	2.0	1.0	3.0	3.0	1.0	1.0	20.0	
	% within child size	15.0	10.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	5.0	100.0	
	% of Total	15.0	10.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	5.0	100.0	

 Table 84
 Lake Tillery resident recreation participation.

Survey Period	Motor boating	Boat Fishing	Bank Fishing	Lake Canoeing	River Canoeing	Hiking	Swimming	Jet Skiing	Water Skiing	Camping	Picnicking	Sunbathing	Sailing	Hunting	Wildlife viewing	Other activities
January	35	27	30	5	4	22	6	5	6	4	6	23	0	10	63	25
February	37	21	27	8	6	26	4	7	2	2	7	20	1	4	66	21
March	57	31	58	9	2	12	6	9	5	3	13	31	0	1	56	17
May	163	69	95	15	2	11	126	90	59	2	35	116	1	2	94	16
June	148	70	100	22	4	17	127	96	63	5	42	102	6	4	79	15
July	168	73	97	19	4	16	153	104	81	3	39	121	10	3	97	15
August	154	59	82	24	5	17	126	85	68	3	27	97	3	0	80	6
September	171	59	86	26	7	19	125	92	66	3	36	97	7	9	85	14
October	115	50	59	13	1	15	47	58	29	3	24	67	3	3	69	12
November	75	36	51	13	5	16	7	14	8	1	12	20	2	9	68	14
December	56	41	42	17	5	23	10	13	8	1	17	28	4	14	87	19
Total	1,179	536	727	171	45	194	737	573	395	30	258	722	37	59	844	174
Percent	54.2	24.6	33.4	7.9	2.1	8.9	33.9	26.3	18.2	1.4	11.9	33.2	1.7	2.7	38.8	7.9

Table 85 Frequency of Lake Tillery resident recreation participation days.

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Survey 1	Period	Motor boating	Jet skiing	River canoeing	Lake canoeing	Swimming	Boat fishing	Bank fishing	Hunting	Camping	Picnicking	Hiking	Sunbathing	Sailing	Wildlife viewing	Other
Jan 05	Days	581	214	217	44	347	412	548	40	12	50	169	414	0	1265	99
	Mean	3.1	1.1	1.1	0.2	1.8	2.2	2.9	0.2	0.1	0.3	0.9	2.2	0.0	6.7	0.5
Feb 05	Days	164	33	5	25	15	83	155	5	5	20	137	38	2	1021	191
	Mean	1.3	0.3	0.0	0.2	0.1	0.7	1.3	0.0	0.0	0.2	1.1	0.3	0.0	8.3	1.6
Mar 05	Days	351	92	34	28	80	230	343	0	2	30	178	80	0	721	139
	Mean	2.9	0.8	0.3	0.2	0.7	1.9	2.8	0.0	0.0	0.2	1.5	0.7	0.0	6.0	1.2
May 04	Days	1245	700	15	57	883	410	656	60	11	132	62	814	2	1356	165
	Mean	6.0	3.4	0.1	0.3	4.2	2.0	3.2	0.3	0.1	0.6	0.3	3.9	0.0	6.6	0.8
Jun 04	Days	1530	830	24	60	1267	407	793	25	50	186	171	898	38	1484	522
Jun 04	Mean	8.7	4.7	0.1	0.3	7.2	2.3	4.5	0.1	0.3	1.1	1.0	5.1	0.2	8.4	3.0
Jul 04	Days	1748	931	11	101	1874	511	684	0	17	194	62	1010	46	1978	157
Jui 04	Mean	8.8	4.7	0.1	0.5	9.5	2.6	3.5	0.0	0.1	1.0	0.3	5.1	0.2	10.0	0.8
Aug 04	Days	1207	673	38	87	999	348	656	0	40	98	63	650	9	1082	104
Aug 04	Mean	6.5	3.6	0.2	0.5	5.3	1.9	3.5	0.0	0.2	0.5	0.3	3.5	0.0	5.8	0.6
Sep 04	Days	1301	714	42	98	1064	423	675	52	15	131	70	671	84	1624	152
Sep 04	Mean	6.5	3.6	0.2	0.5	5.3	2.1	3.4	0.3	0.1	0.7	0.4	3.4	0.4	8.1	0.8
Oct 04	Days	921.5	537	30	44	490	489	592	15	4	124	26	410	12	1057	328
	Mean	5.3	3.1	0.2	0.3	2.8	2.8	3.4	0.1	0.0	0.7	0.1	2.3	0.1	6.0	1.9
Nov 04	Days	485	97	15	29	73	196	314	30	5	38	61	69	24	1269	216
1107 04	Mean	2.7	0.5	0.1	0.2	0.4	1.1	1.7	0.2	0.0	0.2	0.3	0.4	0.1	7.0	1.2
Dec 04	Days	580	299	19	59	366	293	398	78	0	126	133	235	5	1851	859
DCC 04	Mean	3.7	1.9	0.1	0.4	2.3	1.9	2.6	0.5	0.0	0.8	0.9	1.5	0.0	11.9	5.5
Total	Days Mean	10,113.5 5.3	5120 2.7	450 0.2	632 0.3	7,458 3.9	3,802 2.0	5,814 3.0	305 0.2	161 0.1	1,129 0.6	1,132 0.6	5,289 2.8	222 0.1	14,708 7.7	2,932 1.5

	Table 86	Blewett Falls !	Lake resident	recreation	participation b	v month.
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Survey period	Motor boating	Boat Fishing	Bank Fishing	Lake Canoeing	River Canoeing	Hiking	Swimming	Jet Skiing	Water Skiing	Camping	Picnicking	Sunbathing	Wildlife Viewing	Other Activities
January	0	1	1	1	1	1	0	0	0	1	1	0	1	1
February	0	1	1	1	2	2	0	0	0	0	1	1	3	1
March	1	1	1	1	1	0	0	0	0	0	1	0	2	0
May	2	2	2	2	1	2	1	1	0	2	2	1	2	0
June	1	1	2	0	0	1	0	0	0	0	2	0	2	0
July	1	0	1	0	0	0	1	1	0	0	0	0	0	1
August	1	1	2	1	0	2	0	0	0	0	2	1	3	0
September	1	3	1	1	1	0	0	0	0	1	2	0	2	0
October	0	0	0	0	0	1	0	0	0	0	0	0	1	0
November	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	7	10	11	7	6	9	2	2	0	4	11	3	17	4
Percent	33.3	47.6	52.4	33.3	28.6	42.9	9.5	9.5	0.0	19.0	52.4	14.3	81.0	19.0

Table 87 Frequency of Blewett Falls Lake resident participation days.

Surv	ey period	Motor Boating	Jet Skiing	River Canoeing	Lake Canoeing	Swimming	Boat Fishing	Bank Fishing	Camping	Picnicking	Hiking	Sunbathing	Wildlife Viewing	Other
Jan	Days	6.0	0.0	1.0	3.0	0.0	3.0	9.0	2.0	3.0	6.0	0.0	12.0	0.0
	Mean	2.0	0.0	0.3	1.0	0.0	1.0	3.0	0.7	1.0	2.0	0.0	4.0	0.0
Feb	Days	0.0	0.0	2.0	4.0	0.0	3.0	1.0	0.0	4.0	2.0	1.0	34.0	28.0
	Mean	0.0	0.0	0.7	1.3	0.0	1.0	0.3	0.0	1.3	0.7	0.3	11.3	9.3
Mar	Days	2.0	0.0	3.0	3.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	7.0	0.0
	Mean	1.0	0.0	1.5	1.5	0.0	0.0	1.0	0.0	1.0	0.0	0.0	3.5	0.0
Apr	Days	17.0	9.0	4.0	11.0	0.0	16.0	15.0	8.0	10.0	7.0	8.0	10.0	0.0
	Mean	8.5	4.5	2.0	5.5	0.0	8.0	7.5	4.0	5.0	3.5	4.0	5.0	0.0
Jun	Days	3.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	4.0	15.0	0.0	20.0	0.0
	Mean	1.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	2.0	7.5	0.0	10.0	0.0
Jul	Days	7.0	7.0	0.0	0.0	7.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	31.0
	Mean	7.0	7.0	0.0	0.0	7.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	31.0
Aug	Days	2.0	0.0	0.0	4.0	0.0	0.0	5.0	0.0	13.0	10.0	3.0	17.0	0.0
	Mean	0.7	0.0	0.0	1.3	0.0	0.0	1.7	0.0	4.3	3.3	1.0	5.7	0.0
Sep	Days	2.0	0.0	4.0	5.0	0.0	8.0	8.0	6.0	5.0	0.0	0.0	5.0	0.0
	Mean	0.7	0.0	1.3	1.7	0.0	2.7	2.7	2.0	1.7	0.0	0.0	1.7	0.0
Oct	Days	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
	Mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
Nov	Days	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	30.0	30.0
	Mean	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	30.0	30.0
Total	Days	39.0	16.0	14.0	30.0	7.0	30.0	45.0	16.0	41.0	40.0	12.0	135.0	96.0
	Mean	1.9	0.8	0.7	1.4	0.3	1.4	2.1	0.8	2.0	1.9	0.6	6.4	4.6

Table 88 Lake Tillery resident's concern for crowded conditions.

Level of Concern for Crowded Conditions	Frequency	Percentage	
Low	676	31.9	
Medium	357	16.8	
High	132	6.2	
Total	1,165	54.9	
Did not address	957	45.1	
Total	2,122	100.0	

Table 89 Lake Tillery resident's concern for crowded conditions by month.

Month	Count	Crowde	Crowded Conditions on the Lake			
Month	Count	Low	Medium	High	Total	
	Count	53.0	14.0	3.0	70.0	
January	% within Survey period	75.7	20.0	4.3	100.0	
	% of Total	4.6	1.2	0.3	6.0	
	Count	44.0	9.0	3.0	56.0	
February	% within Survey period	78.6	16.1	5.4	100.0	
	% of Total	3.8	0.8	0.3	4.8	
	Count	53.0	20.0	1.0	74.0	
March	% within Survey period	71.6	27.0	1.4	100.0	
	% of Total	4.6	1.7	0.1	6.4	
	Count	76.0	49.0	25.0	150.0	
May	% within Survey period	50.7	32.7	16.7	100.0	
	% of Total	6.5	4.2	2.1	12.9	
	Count	57.0	55.0	23.0	135.0	
June	% within Survey period	42.2	40.7	17.0	100.0	
	% of Total	4.9	4.7	2.0	11.6	
	Count	66.0	68.0	23.0	157.0	
July	% within Survey period	42.0	43.3	14.6	100.0	
	% of Total	5.7	5.8	2.0	13.5	
	Count	64.0	52.0	19.0	135.0	
August	% within Survey period	47.4	38.5	14.1	100.0	
	% of Total	5.5	4.5	1.6	11.6	
	Count	82.0	43.0	17.0	142.0	
September	% within Survey period	57.7	30.3	12.0	100.0	
	% of Total	7.1	3.7	1.5	12.2	
	Count	73.0	25.0	6.0	104.0	
October	% within Survey period	70.2	24.0	5.8	100.0	
	% of Total	6.3	2.1	0.5	8.9	
	Count	50.0	14.0	7.0	71.0	
November	% within Survey period	70.4	19.7	9.9	100.0	
	% of Total	4.3	1.2	0.6	6.1	
	Count	56.0	8.0	5.0	69.0	
December	% within Survey period	81.2	11.6	7.2	100.0	
	% of Total	4.8	0.7	0.4	5.9	
	Count	674.0	357.0	132.0	1,163.0	
Total	% within Survey period	58.0	30.7	11.3	100.0	
	% of Total	58.0	30.7	11.3	100.0	

Table 90 Lake Tillery resident's level of concern for limited access.

Level of Concern	Frequency	Percentage
Low	833	39.3
Medium	113	5.3
High	44	2.1
Total	990	46.6
Did not address	1,132	53.4
Total	2,122	100.0

Table 91 Lake Tillery resident's level of concern for improper disposal of trash.

Level of Concern	Frequency	Percentage	
Low	553	26.1	
Medium	345	16.3	
High	251	11.8	
Total	1,149	54.1	
Did not address	973	45.9	
Total	2,122	100.0	

Table 92 Lake Tillery resident's level of concern for lake water levels.

Level of Concern	Frequency	Percentage	
Low	618	29.1	
Medium	375	17.7	
High	323	15.2	
Total	1,316	62.0	
Did not address	806	38.0	
Total	2,122	100.0	

Table 93 Blewett Falls Lake resident's level of concern for crowded conditions.

Level of Concern	Frequency	Percentage	
Low	10	47.6	
Medium	1	4.8	
High	0	0	
Total	11	52.4	
Did not address	10	47.6	
Total	21	100.0	

Table 94 Blewett Falls Lake resident's level of concern for crowded conditions.

	3.5.0	Level of Concern for Crowded Conditions on the lake			
	Survey Month	Low	Medium	Total	
	Count	1	0	1	
January	% within Survey period	100.0	.0	100.0	
	% of Total	9.1	.0	9.1	
	Count	2	0	2	
February	% within Survey period	100.0	.0	100.0	
	% of Total	18.2	.0	18.2	
	Count	1	0	1	
March	% within Survey period	100.0	.0	100.0	
	% of Total	9.1	.0	9.1	
	Count	0	1	1	
May	% within Survey period	.0	100.0	100.0	
	% of Total	.0	9.1	9.1	
	Count	1	0	1	
July	% within Survey period	100.0	.0	100.0	
	% of Total	9.1	.0	9.1	
	Count	2	0	2	
August	% within Survey period	100.0	.0	100.0	
	% of Total	18.2	.0	18.2	
	Count	2	0	2	
September	% within Survey period	100.0	.0	100.0	
	% of Total	18.2	.0	18.2	
	Count	1	0	1	
October	% within Survey period	100.0	.0	100.0	
	% of Total	9.1	.0	9.1	
Total	Count	10	1	11	
Total	% of Total	90.9	9.1	100.0	

Table 95 Blewett Falls Lake resident's level of concern for limited access.

Level of Concern	Frequency	Percentage	
Low	6	28.6	
Medium	1	4.8	
High	7	33.3	
Total	14	66.7	
Did not address	7	33.3	
Total	21	100.0	

Table 96 Blewett Falls Lake resident's level of concern-trash/litter.

Level of Concern	Frequency	Percentage	
Low	4	19.0	
Medium	2	9.5	
High	5	23.8	
Total	11	52.4	
Did not address	10	47.6	
Total	21	100.0	

Table 97 Blewett Falls Lake resident's level of concern for lake water levels.

Level of Concern	Frequency	Percentage	
Low	4	19.0	
Medium	4	19.0	
High	6	28.6	
Total	14	66.7	
Did not address	7	33.3	
Total	21	100.0	

Table 98 Lake Tillery resident's use of public boat launch facilities.

Do you use a pub launch facility?	olic boat	Frequency	Percentage	
Yes		368	16.9	
No		1,292	59.4	
	Total	1,660	76.3	
Did not	address	515	23.7	
	Total	2,175	100.0	

Table 99 Lake Tillery resident's choice of boat launch facility.

What facility do you use as a boat launch?	Frequency	Percentage	
Lilly's Bridge Access	106	4.9	
Ken's Marina	5	.2	
Swift Island Access	64	2.9	
Norwood Access Area	49	2.3	
Cook's Marina	24	1.1	
Carolina Forest	1	.0	
Stony Mountain Access	4	.2	
Sugar Loaf Shores	2	.1	
Holiday Shores	1	.0	
Mountain Creek	5	.2	
Woodrun	11	.5	
Morrow Mountain State Park	2	.1	
Wildlife Landing	24	1.1	
Informal SR 1740 & 1745	1	.0	
Total	299	13.7	
Did not address	1,876	86.3	
Total	2,175	100.0	

Table 100 Blewett Falls Lake resident's use of public boat launch facilities.

Do you use a public boat launch facility?	Frequency	Percentage	
Yes	11	52.4	
No	7	33.3	
Total	18	85.7	
Did not address	3	14.3	
Total	21	100.0	

Table 101 Blewett Falls Lake resident's choice of boat launch facility.

What facility do you use as a boat launch?	Frequency	Percentage	
Mountain Creek	5	23.8	
Anson County	2	9.5	
Public Access Area	1	4.8	
Multiple Areas	1	4.8	
Blewett Falls	1	4.8	
Richmond County	1	4.8	
Total	11	52.4	
Did not address	10	47.6	
Total	21	100.0	

Table 102 Lake Tillery resident's estimated recreation expenses.

Survey pe	Sum	Gas	Food	Doit and Taskla	TI T	
May 04	Sum		roou	Bait and Tackle	Use Fees	Equipment Rental
May 04	Sum	\$13,331.00	\$13,191.00	\$1,791.00	\$841.00	
May 04	Mean	\$82.29	\$112.74	\$20.12	\$56.07	
	Median	\$50.00	\$65.00	\$15.00	\$16.00	
	Std. Dev.	\$74.03	\$124.02	\$15.89	\$61.14	
	Sum	\$16,212.00	\$17,281.00	\$2,192.00	\$2,048.00	\$65.00
June 04	Mean	\$108.08	\$152.93	\$24.09	\$89.04	\$32.50
Julie 04	Median	\$80.00	\$100.00	\$15.00	\$100.00	\$32.50
	Std. Dev.	\$101.45	\$149.48	\$26.53	\$100.74	\$24.75
	Sum	\$18,343.00	\$22,430.00	\$3,127.00	\$875.00	\$100.00
Il., 04	Mean	\$106.03	\$172.54	\$32.92	\$72.92	\$100.00
July 04	Median	\$80.00	\$100.00	\$20.00	\$70.00	\$100.00
	Std. Dev.	\$97.67	\$162.61	\$50.38	\$55.25	
	Sum	\$14,290.50	\$18,534.00	\$2,071.10	\$1,208.33	
	Mean	\$90.45	\$174.85	\$25.89	\$92.95	
August 04	Median	\$60.00	\$100.00	\$20.00	\$26.00	
	Std. Dev.	\$84.42	\$290.81	\$24.87	\$200.44	
	Sum	\$12,093.00	\$12,125.00	\$1,824.00	\$1,415.30	\$50.00
	Mean	\$75.11	\$114.39	\$24.65	\$141.53	\$50.00
September 04	Median	\$50.00	\$95.00	\$16.00	\$37.50	\$50.00
	Std. Dev.	\$81.08	\$131.15	\$24.77	\$305.45	
	Sum	\$8,432.00	\$9,867.00	\$1,295.50	\$243.33	<u> </u>
	Mean	\$69.11	\$124.90	\$24.44	\$40.56	
October 04	Median	\$40.00	\$60.00	\$20.00	\$30.00	
	Std. Dev.	\$114.62	\$182.35	\$22.01	\$37.75	
	Sum	\$3,201.00	\$4,137.00	\$890.00	\$152.00	\$83.00
	Mean	\$36.79	\$84.43	\$20.70	\$25.33	\$41.50
November 04	Median	\$25.00	\$50.00	\$15.00	\$15.00	\$41.50
	Std. Dev.	\$32.02	\$74.34	\$20.57	\$23.89	\$51.62
	Sum	\$3,905.00	\$4,215.00	\$1,195.00	\$258.00	\$112.00
	Mean	\$61.02	\$93.67	\$27.16	\$64.50	\$112.00
December 04	Median	\$30.00	\$50.00	\$20.00	\$75.00	\$112.00
	Std. Dev.	\$93.99	\$122.26	\$41.75	\$44.43	Ψ11 2. 00
	Sum	\$3,273.00	\$4,678.00	\$566.00	\$200.00	·
	Mean	\$76.12	\$155.93	\$20.96	\$200.00	
January 05	Median	\$22.00	\$50.00	\$12.00	\$200.00	
	Std. Dev.	\$167.31	\$375.79	\$25.21	Ψ200.00	
	Sum	\$1,520.00	\$2,635.00	\$446.00	\$221.00	\$1.00
	Mean	\$40.00	\$73.19	\$16.52	\$44.20	\$1.00
February 05	Median	\$30.00	\$30.00	\$10.00	\$20.00	\$1.00
	Std. Dev.	\$35.47	\$97.40	\$19.44	\$46.99	Ψ1.00
	Sum	\$3,453.00	\$4,359.00	\$1,204.00	\$720.00	\$100.00
	Mean	\$47.96	\$87.18	\$23.61	\$120.00	\$100.00
March 05	Median	\$25.00	\$55.00	\$10.00	\$100.00	\$100.00
	Std. Dev.	\$23.00 \$67.68	\$123.30	\$55.88	\$100.00	φ100 . 00
	Sum	\$98,053.50	\$113,452.00	\$16,601.60	\$8,181.96	\$511.00
	Mean	\$90,053.50 \$79.72	\$113,452.00 \$131.77	\$10,001.00 \$24.63	\$81.01	\$511.00 \$56.78
Total	Median	\$50.00	\$75.00	\$15.00	\$50.00	\$50.78 \$50.00
	Std. Dev.	\$92.88	\$180.53	\$32.93	\$135.35	\$43.11

Table 103 Blewett Falls Lake resident's estimated recreation expenses.

			Estin	nated Expenses		
Survey I	period	Gas	Food	Bait and Tackle	Use fees	Equipment Rental
January 05	Sum	\$20.00	\$10.00	\$10.00	\$0.00	\$0.00
	Mean	\$10.00	\$5.00	\$5.00	\$0.00	\$0.00
	Median	\$10.00	\$5.00	\$5.00	\$0.00	\$0.00
	Std. Dev.	\$14.14	\$7.07	\$7.07	\$0.00	\$0.00
February 05	Sum	\$20.00	\$60.00	\$5.00	\$0.00	\$0.00
	Mean	\$6.67	\$20.00	\$1.67	\$0.00	\$0.00
	Median	\$0.00	\$20.00	\$0.00	\$0.00	\$0.00
	Std. Dev.	\$11.55	\$20.00	\$2.89	\$0.00	\$0.00
March 05	Sum	\$10.00	\$28.00	\$8.00	\$0.00	\$0.00
	Mean	\$5.00	\$14.00	\$4.00	\$0.00	\$0.00
	Median	\$5.00	\$14.00	\$4.00	\$0.00	\$0.00
	Std. Dev.	\$7.07	\$5.66	\$5.66	\$0.00	\$0.00
May 04	Sum	\$95.00	\$310.00	\$40.00	\$0.00	\$0.00
•	Mean	\$47.50	\$155.00	\$20.00	\$0.00	\$0.00
	Median	\$47.50	\$155.00	\$20.00	\$0.00	\$0.00
	Std. Dev.	\$3.54	\$134.35	\$7.07	\$0.00	\$0.00
June 04	Sum	\$215.00	\$95.00	\$5.00	\$0.00	\$0.00
	Mean	\$107.50	\$47.50	\$2.50	\$0.00	\$0.00
	Median	\$107.50	\$47.50	\$2.50	\$0.00	\$0.00
	Std. Dev.	\$130.81	\$3.54	\$3.54	\$0.00	\$0.00
July 04	Sum	\$100.00	\$25.00	\$5.00	\$0.00	\$0.00
·	Mean	\$100.00	\$25.00	\$5.00	\$0.00	\$0.00
	Median	\$100.00	\$25.00	\$5.00	\$0.00	\$0.00
	Std. Dev.					
August 04	Sum	\$20.00	\$45.00	\$0.00	\$0.00	\$0.00
<u> </u>	Mean	\$6.67	\$15.00	\$0.00	\$0.00	\$0.00
	Median	\$10.00	\$15.00	\$0.00	\$0.00	\$0.00
	Std. Dev.	\$5.77	\$15.00	\$0.00	\$0.00	\$0.00
September 04	Sum	\$50.00	\$125.00	\$36.00	\$0.00	\$0.00
1	Mean	\$16.67	\$41.67	\$12.00	\$0.00	\$0.00
	Median	\$15.00	\$25.00	\$10.00	\$0.00	\$0.00
	Std. Dev.	\$7.64	\$52.04	\$7.21	\$0.00	\$0.00
October 04	Sum	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Mean	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Median	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Std. Dev.		•	•		
Total	Sum	\$530.00	\$698.00	\$109.00	\$0.00	\$0.00
	Mean	\$27.89	\$36.74	\$5.74	\$0.00	\$0.00
	Median	\$10.00	\$20.00	\$5.00	\$0.00	\$0.00
	Std. Dev.	\$48.31	\$57.68	\$7.45	\$0.00	\$0.00

Canoe Portage Summary

Table 104 Lake Tillery Canoe Portage - visitation time of day.

			Time of Day		
	Month of Portage	7AM - 11:59AM	12PM - 3:59PM	4PM - 7:59PM	Total
April	Count	1	0	2	3
	% within Month of portage	33.3	.0	66.7	100.0
September	Count	0	1	2	3
	% within Month of portage	.0	33.3	66.7	100.0
October	Count	0	0	2	2
	% within Month of portage	.0	.0	100.0	100.0
November	Count	1	0	0	1
	% within Month of portage	100.0	.0	.0	100.0
Total	Count	2	1	6	9
	% within Month of portage	22.2	11.1	66.7	100.0

Table 105 Blewett Falls Lake Canoe Portage - visitation time of day.

			Time o	of Day		
	Month of portage	7AM - 11:59AM	12PM - 3:59PM	4PM - 7:59PM	8PM - 12AM	Total
April	Count	0	4	7	0	11
	% within Month of portage	.0	36.4	63.6	.0	100.0
May	Count	0	1	0	2	3
	% within Month of portage	.0	33.3	.0	66.7	100.0
June	Count	1	1	3	0	5
	% within Month of portage	20.0	20.0	60.0	.0	100.0
July	Count	1	2	0	0	3
	% within Month of portage	33.3	66.7	.0	.0	100.0
August	Count	0	0	1	0	1
	% within Month of portage	.0	.0	100.0	.0	100.0
Total	Count	2	8	11	2	23
	% within Month of portage	8.7	34.8	47.8	8.7	100.0

Table 106 Lake Tillery Canoe Portage - group size by month.

Group Size -		Month	of Portage		Total
Group Size -	April	September	October	November	Total
Group of 2	2	1	1	0	4
Group of 3	0	0	1	1	2
Group of 6	0	1	0	0	1
Group of 8	1	0	0	0	1
Group of 10	0	1	0	0	1
Total Number of Groups	3	3	2	1	9

Table 107 Blewett Falls Lake Canoe Portage - group size by month.

Group Size		N	Month of Port	age		Total
Group Size	April	May	June	July	August	Total
Group of 2	1	2	1	1	1	6
Group of 3	1	0	1	1	0	3
Group of 4	3	0	1	1	0	5
Group of 5	2	1	1	0	0	4
Group of 7	1	0	0	0	0	1
Group of 8	2	0	0	0	0	2
Group of 9	0	0	1	0	0	1
Group of 12	2	0	0	0	0	2
Total Number of Groups	12	3	5	3	1	24

Table 108 Lake Tillery Canoe Portage - put-in and take-out locations.

Put-in Location	Take-o	out Location	Total	
I ut-in Location	Unknown	Cook's Marina	Total	
Did not state location	8	0	8	
Lilly's Bridge	0	1	1	
Total	8	1	9	

Table 109 Blewett Falls Lake Canoe Portage - put-in and take-out locations.

				Take-out Loca	tion			
Put-in Location	Unknown	Above the Lake	Anson	At landing downstream of dam	Mountain Creek	Parking	Pee Dee Access Ramp	Total
Did not state	18	0	0	0	0	0	0	18
Above the Lake	0	1	0	0	0	0	0	1
Anson	0	0	1	0	0	0	0	1
At dam on rock side	1	0	0	0	0	0	0	1
At landing downstream of dam	0	0	0	1	0	0	0	1
Close to the river	0	0	0	0	0	1	0	1
Mountain Creek	0	0	0	0	3	0	0	3
Pee Dee Access Ramp	0	0	0	0	0	0	1	1
Total	19	1	1	1	3	1	1	27

Table 110 Ease of portage by lake.

Portage Location -		Ease	of Use	_	Total
1 of tage Location –	Easy	Acceptable	Difficult	Non-response	Total
Lake Tillery	4	1	2	2	9
Blewett Falls Dam	9	9	4	5	27
Did not address	2	1	0	2	5
Total	15	11	6	9	41

Table 111 Lake Tillery - ease of portage.

Ease of Portage	Frequency	Percent	
Easy	4	44.4	
Acceptable	1	11.1	
Difficult	2	22.2	
Did not address	2	22.2	
Total	9	100.0	

 Table 112
 Blewett Falls Lake - ease of portage.

Ease of Portage	Frequency	Percent
Easy	9	33.3
Acceptable	9	33.3
Difficult	4	14.8
Did not address	5	18.5
Total	27	100.0

Tailrace Fishing Survey Summary

 Table 113
 Tailrace survey location.

Survey Location	Frequency	Percent	
Lake Tillery	47	51.6	
Blewett Falls	38	41.8	
Total	85	93.4	
Did not address	6	6.6	
Total	91	100.0	

Table 114 Lake Tillery Tailrace - time of day surveyed.

Time of Day	Frequency	Percent	
6:01am-10:00am	14	29.8	
10:01am-2:00pm	5	10.6	
2:01pm-6:00pm	12	25.5	
6:01pm-10:00pm	5	10.6	
10:01pm-2:00am	2	4.3	
2:01am-6:00am	3	6.4	
Total	41	87.2	
Did not address	6	12.8	
Total	47	100.0	

 Table 115
 Lake Tillery Tailrace - reported weather conditions.

Weather Conditions	Frequency	Percent	
Clear/sunny	10	21.3	
Cloudy/overcast	9	19.1	
Rainy	2	4.3	
Windy	1	2.1	
Fair	3	6.4	
Good	2	4.3	
Hot/hazy	6	12.8	
Cool	2	4.3	
Perfect/pretty	3	6.4	
Bad	1	2.1	
Total	39	83.0	
Did not address	8	17.0	
Total	47	100.0	

Table 116 Blewett Falls Lake Tailrace - time of day surveyed.

Time of Day	Frequency	Percent
6:01am-10:00am	4	10.5
10:01am-2:00pm	10	26.3
2:01pm-6:00pm	10	26.3
6:01pm-10:00pm	9	23.7
Total	33	86.8
Did not address	5	13.2
Total	38	100.0

 Table 117
 Blewett Falls Lake Tailrace - reported weather conditions.

Weather Conditions	Frequency	Percent	
Clear/sunny	14	36.8	
Cloudy/overcast	9	23.7	
Windy	2	5.3	
Fair	1	2.6	
Good	2	5.3	
Hot/hazy	2	5.3	
Cool	1	2.6	
Bad	1	2.6	
Total	32	84.2	
Did not address	6	15.8	
Total	38	100.0	

Table 118 Lake Tillery Tailrace - gender.

	Gender	Frequency	Percent
Female	_	9	19.1
Male		38	80.9
	Total	47	100.0

Table 119 Lake Tillery Tailrace - age.

Age	Frequency	Percent	
<16	2	4.3	
17-21	8	17.0	
22-30	9	19.1	
31-40	8	17.0	
41-50	9	19.1	
51-60	3	6.4	
>60	7	14.9	
Total	46	97.9	
Did not address	1	2.1	
Total	47	100.0	

Table 120 Lake Tillery Tailrace - group size.

Group Size	Frequency	Percent	
1	16	34.0	
2	13	27.7	
3	4	8.5	
4	3	6.4	
5	3	6.4	
8	1	2.1	
12	1	2.1	
27	1	2.1	
Total	42	89.4	
Did not address	5	10.6	
Total	47	100.0	

 Table 121
 Blewett Falls Lake Tailrace - gender.

Gender	Frequency	Percent	
Female	3	7.9	
Male	33	86.8	
Total	36	94.7	
Did not address	2	5.3	
Total	38	100.0	

Table 122Blewett Falls Lake Tailrace - age.

Age	Frequency	Percent	
<16	1	2.6	
17-21	4	10.5	
22-30	10	26.3	
31-40	7	18.4	
41-50	6	15.8	
51-60	2	5.3	
>60	4	10.5	
Total	34	89.5	
Did not address	4	10.5	
Total	38	100.0	

Table 123 Blewett Falls Lake Tailrace - group size.

Group Size	Frequency	Percent	
1	7	18.4	
2	8	21.1	
3	8	21.1	
4	3	7.9	
5	2	5.3	
6	1	2.6	
9	1	2.6	
16	2	5.3	
Total	32	84.2	
Did not address	6	15.8	
Total	38	100.0	

Table 124 Lake Tillery Tailrace - number of days fished per month.

	•		
Number of Days Fished	Frequency	Percent	
1-2	15	31.9	
3-4	7	14.9	
5-10	11	23.4	
>10	14	29.8	
Total	47	100.0	

Table 125 Lake Tillery Tailrace - time of day fished.

Time of Day Fished at Tailwater	Frequency	Percent
Early morning	29	61.7
Late morning	2	4.3
Midday	3	6.4
Early afternoon	1	2.1
Late afternoon	6	12.8
Evening	4	8.5
Total	45	95.7
Did not address	2	4.3
Total	47	100.0

Table 126 Lake Tillery Tailrace fishing - typical length of time.

Typical Length of Time Fishing	Frequency	Percent	
<2 hours	6	12.8	
2-4 hours	23	48.9	
5-6 hours	7	14.9	
7-8 hours	10	21.3	
Total	46	97.9	
Did not address	1	2.1	
Total	47	100.0	

Table 127 Blewett Falls Lake Tailrace - number of days fished per month.

Number of Days Fished	Frequency	Percent
1-2	7	18.4
3-4	8	21.1
5-10	8	21.1
>10	13	34.2
Total	36	94.7
Did not address	2	5.3
Total	38	100.0

Table 128 Blewett Falls Lake Tailrace - time of day fished.

Time of Day Fished at Tailwater	Frequency	Percent	
Early morning	10	26.3	
Late morning	7	18.4	
Midday	2	5.3	
Early afternoon	2	5.3	
Late afternoon	10	26.3	
Evening	4	10.5	
Total	35	92.1	
Did not address	3	7.9	
Total	38	100.0	

Table 129 Blewett Falls Lake Tailrace - typical length of time.

Typical Length of Time Fishing	Frequency	Percent	
<2 hours	1	2.6	
2-4 hours	14	36.8	
5-6 hours	10	26.3	
7-8 hours	11	28.9	
Total	36	94.7	
Did not address	2	5.3	
Total	38	100.0	

 Table 130
 Lake Tillery Tailrace - angler preference.

Fish Preference		Res	ponses	
rish i reference		N	Percent	
Bass		3	5.0	
Bream		3	5.0	
Carp		1	1.7	
Catfish		13	21.7	
Crappie		1	1.7	
Gar		1	1.7	
Large mouth bass		1	1.7	
Stripers		20	33.3	
Walkie-more		1	1.7	
White perch		2	3.3	
White bass		6	10.0	
Pan fish		1	1.7	
Anything		7	11.7	
	Total	60	100.0	

 Table 131
 Lake Tillery Tailrace - fish catch.

Did you catch fish today?	Frequency	Percent	
Yes	23	48.9	
No	23	48.9	
Total	46	97.9	
Did not address	1	2.1	
Total	47	100.0	

Table 132 Lake Tillery Tailrace - type, number, and size of fish caught.

Type of Fish	Number of Fish Caught	Approximate size of the fish?
Bream	1	6"
Carp	3	2 common, 1 big buff
Catfish	1	5"
	10	
	2	small channel
	6	
Crappie	84	
	134	
Gar	3	16in
	2	
	1	3ft
Large mouth bass	4	14-18in
Stripers	19	24in and bigger
	2	18-24"
	2	18-22"
	3	20", 24" & 26"
	3	6-10lb
	3	6-10lbs
	3	22-26"
	8	12lb, 23-26in
Walkie-more	80	6-10
White perch	3	7-9in

 Table 133
 Blewett Falls Lake Tailrace - angler preference.

Fish Preference -	Re	esponses	
rish i reference –	N	Percent	
Bass	5	10.9	
Bream	2	4.3	
Carp	2	4.3	
Catfish	18	39.1	
Crappie	1	2.2	
Large mouth bass	1	2.2	
Stripers	8	17.4	
White perch	1	2.2	
White bass	1	2.2	
Anything	6	13.0	
None	1	2.2	
Total	46	100.0	

 Table 134
 Blewett Falls Lake Tailrace - fish catch.

Did you catch fish today?	Frequency	Percent	
Yes	17	44.7	
No	14	36.8	
Total	31	81.6	
Did not address	7	18.4	
Total	38	100.0	

Table 135 Blewett Falls Lake Tailrace - type, number, and size of fish caught.

200010 200 21011		of pe, named the size of fish eaught				
Type of Fish	Number of Fish Caught	Approximate size of the fish?				
Bass	2	14"				
Bluegill	5	6-8"				
Bream	14	4oz				
Carp	1	18-20 lbs, 23 in				
Catfish	20	over 20lbs				
	1	8lb				
	1	19"				
	18					
	2					
	10					
	2					
Crappie	6					
	12	2oz				
	2					
Gar	2					
Large mouth bass	2	2-3 lbs, 15-16 in				
	5	over 14"				
Stripers	1					
	2	23 & 19"				
	1					
White bass	7	1-1.5lbs				

Facility Carrying Capacity Summary

Table 136 Lake Tillery facility capacity.

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Norwood Access Area	Jan 05	WD	90	50	3	3	9.3
		WE	90	50	7	6	19.8
	Feb 05	WD	90	50	3	3	9.3
		WE	90	50	8	7	22.9
	Mar 05	WD	90	50	7	6	19.8
		WE	90	50	12	11	35.3
	Apr 04	WD	90	50	11	10	32.2
	_	WE	90	50	48	45	143.3
	May 04	WD	90	50	10	9	29.1
	·	WE	90	50	14	13	41.6
		Hol	90	50	17	15	48.9
	Jun 04	WD	90	50	11	8	28.2
		WE	90	50	39	35	113.3
	Jul 04	WD	90	50	11	11	34.2
		WE	90	50	24	18	62.7
		Hol	90	50	52	36	129.8
	Aug 04	WD	90	50	8	6	20.9
		WE	90	50	21	18	59.3
	Sep 04	WD	90	50	7	6	19.8
		WE	90	50	13	11	36.4
		Hol	90	50	14	14	43.6
	Oct 04	WD	90	50	9	9	28.0
		WE	90	50	14	13	41.6
	Nov 04	WD	90	50	6	6	18.7
		WE	90	50	11	10	32.2
	Dec 04	WD	90	50	5	4	13.6
		WE	90	50	4	4	12.4

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Stony Mountain Access	Jan 05	WD	150	60	5	4	10.0
		WE	150	60	3	2	5.3
	Feb 05	WD	150	60	0	0	0.0
		WE	150	60	4	3	7.7
	Mar 05	WD	150	60	1	1	2.3
		WE	150	60	8	6	15.3
	Apr 04	WD	150	60	8	3	10.3
	_	WE	150	60	52	45	109.7
	May 04	WD	150	60	5	3	8.3
	•	WE	150	60	5	4	10.0
		Hol	150	60	10	7	18.3
	Jun 04	WD	150	60	7	5	13.0
		WE	150	60	17	13	33.0
	Jul 04	WD	150	60	7	3	9.7
		WE	150	60	38	35	83.7
		Hol	150	60	26	14	40.7
	Aug 04	WD	150	60	3	3	7.0
		WE	150	60	13	11	27.0
	Sep 04	WD	150	60	2	2	4.7
	•	WE	150	60	6	5	12.3
		Hol	150	60	7	4	11.3
	Oct 04	WD	150	60	3	2	5.3
		WE	150	60	6	3	9.0
	Nov 04	WD	150	60	2	2	4.7
		WE	150	60	2	2	4.7
	Dec 04	WD	150	60	1	1	2.3
		WE	150	60	1	1	2.3

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Swift Island Access	Jan 05	WD	600	240	2	2	1.2
		WE	600	240	6	5	3.1
	Feb 05	WD	600	240	4	4	2.3
		WE	600	240	7	7	4.1
	Mar 05	WD	600	240	6	6	3.5
		WE	600	240	31	26	16.0
	Apr 04	WD	600	240	11	10	6.0
		WE	600	240	122	107	64.9
	May 04	WD	600	240	45	39	23.8
	·	WE	600	240	58	50	30.5
		Hol	600	240	33	26	16.3
	Jun 04	WD	600	240	20	16	10.0
		WE	600	240	62	56	33.7
	Jul 04	WD	600	240	27	24	14.5
		WE	600	240	68	63	37.6
		Hol	600	240	100	65	43.8
	Aug 04	WD	600	240	8	7	4.3
		WE	600	240	63	46	29.7
	Sep 04	WD	600	240	5	5	2.9
		WE	600	240	30	24	15.0
		Hol	600	240	16	16	9.3
	Oct 04	WD	600	240	17	13	8.3
		WE	600	240	43	41	24.3
	Nov 04	WD	600	240	7	6	3.7
		WE	600	240	17	15	9.1
	Dec 04	WD	600	240	8	8	4.7
		WE	600	240	11	10	6.0

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Lilly's Bridge Access	Jan 05	WD	200	80	6	6	10.5
		WE	200	80	3	2	4.0
	Feb 05	WD	200	80	7	6	11.0
		WE	200	80	6	5	9.3
	Mar 05	WD	200	80	5	3	6.3
		WE	200	80	13	11	20.3
	Apr 04	WD	200	80	6	6	10.5
		WE	200	80	31	29	51.8
	May 04	WD	200	80	10	8	15.0
		WE	200	80	18	16	29.0
		Hol	200	80	10	9	16.3
	Jun 04	WD	200	80	9	5	10.8
		WE	200	80	30	24	45.0
	Jul 04	WD	200	80	8	6	11.5
		WE	200	80	17	15	27.3
		Hol	200	80	51	46	83.0
	Aug 04	WD	200	80	5	4	7.5
		WE	200	80	12	8	16.0
	Sep 04	WD	200	80	5	4	7.5
		WE	200	80	8	7	12.8
		Hol	200	80	9	7	13.3
	Oct 04	WD	200	80	5	5	8.8
		WE	200	80	11	8	15.5
	Nov 04	WD	200	80	6	4	8.0
		WE	200	80	8	8	14.0
	Dec 04	WD	200	80	4	4	7.0
		WE	200	80	5	4	7.5

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Informal Access SR 1740 & 1745	Jan 05	WD	30	10	1	1	13.3
		WE	30	10	0	0	0.0
	Feb 05	WD	30	10	1	0	3.3
		WE	30	10	1	0	3.3
	Mar 05	WD	30	10	1	0	3.3
		WE	30	10	2	0	6.7
	Apr 04	WD	30	10	4	0	13.3
		WE	30	10	10	2	53.3
	May 04	WD	30	10	2	0	6.7
		WE	30	10	2	0	6.7
		Hol	30	10	6	1	30.0
	Jun 04	WD	30	10	2	1	16.7
		WE	30	10	5	2	36.7
	Jul 04	WD	30	10	1	0	3.3
		WE	30	10	1	0	3.3
		Hol	30	10	3	1	20.0
	Aug 04	WD	30	10	1	0	3.3
		WE	30	10	2	1	16.7
	Sep 04	WD	30	10	1	0	3.3
		WE	30	10	1	0	3.3
		Hol	30	10	2	0	6.7
	Oct 04	WD	30	10	1	0	3.3
		WE	30	10	7	1	33.3
	Nov 04	WD	30	10	2	0	6.7
		WE	30	10	2	0	6.7
	Dec 04	WD	30	10	0	0	0.0
		WE	30	10	0	0	0.0

Loca		Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Tillery Portage	Canoe	Jan 05	WD	20	10	0	0	0.0
			WE	20	10	0	0	0.0
		Feb 05	WD	20	10	1	0	5.0
			WE	20	10	0	0	0.0
		Mar 05	WD	20	10	0	0	0.0
			WE	20	10	1	0	5.0
		Apr 04	WD	20	10	2	0	10.0
			WE	20	10	4	0	20.0
		May 04	WD	20	10	2	0	10.0
		-	WE	20	10	6	0	30.0
			Hol	20	10	13	0	65.0
		Jun 04	WD	20	10	1	0	5.0
			WE	20	10	3	0	15.0
		Jul 04	WD	20	10	0	0	0.0
			WE	20	10	2	0	10.0
			Hol	20	10	7	0	35.0
		Aug 04	WD	20	10	1	0	5.0
			WE	20	10	3	0	15.0
		Sep 04	WD	20	10	1	0	5.0
			WE	20	10	1	0	5.0
			Hol	20	10	3	0	15.0
		Oct 04	WD	20	10	1	0	5.0
			WE	20	10	3	0	15.0
		Nov 04	WD	20	10	1	0	5.0
			WE	20	10	0	0	0.0
		Dec 04	WD	20	10	1	0	5.0
			WE	20	10	1	0	5.0

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Informal							
Tailwater Access	Jan 05	WD	45	12	2	1	12.8
Area							
Public		WE	45	12	1	1	10.6
	Feb 05	WD	45	12	3	1	15.0
		WE	45	12	3	1	15.0
	Mar 05	WD	45	12	2	1	12.8
		WE	45	12	5	4	44.4
	Apr 04	WD	45	12	7	1	23.9
		WE	45	12	8	2	34.4
	May 04	WD	45	12	4	2	25.6
		WE	45	12	8	3	42.8
		Hol	45	12	7	1	23.9
	Jun 04	WD	45	12	7	2	32.2
		WE	45	12	6	4	46.7
	Jul 04	WD	45	12	4	3	33.9
		WE	45	12	6	2	30.0
		Hol	45	12	9	1	28.3
	Aug 04	WD	45	12	5	4	44.4
	U	WE	45	12	6	2	30.0
	Sep 04	WD	45	12	2	0	4.4
	~~r	WE	45	12	7	2	32.2
		Hol	45	12	5	0	11.1
	Oct 04	WD	45	12	11	12	124.4
	30001	WE	45	12	10	2	38.9
	Nov 04	WD	45	12	6	2	30.0
	1101 04	WE	45	12	7	3	40.6
	Dec 04	WD	45	12	3	2	23.3
	DCC 04	WE WE	45	12	4	1	17.2

Table 137 Blewett Falls Lake facility capacity - access areas.

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicles	Vehicle w/ Boat Trailer	Percent of Capacity Reached
U.S. Highway 74 Site	Jan 05	WD	125	50	2	1	3.6
		WE	125	50	1	1	2.8
	Feb 05	WD	125	50	1	1	2.8
		WE	125	50	2	2	5.6
	Mar 05	WD	125	50	3	3	8.4
		WE	125	50	3	3	8.4
	Apr 04	WD	125	50	3	1	4.4
		WE	125	50	9	4	15.2
	May 04	WD	125	50	3	3	8.4
		WE	125	50	4	2	7.2
		HOL	125	50	6	2	8.8
	Jun 04	WD	125	50	2	2	5.6
		WE	125	50	8	3	12.4
	Jul 04	WD	125	50	2	2	5.6
		WE	125	50	4	2	7.2
		HOL	125	50	5	2	8.0
	Aug 04	WD	125	50	2	2	5.6
		WE	125	50	5	5	14.0
	Sep 04	WD	125	50	1	1	2.8
	•	WE	125	50	2	2	5.6
		HOL	125	50	6	2	8.8
	Oct 04	WD	125	50	0	0	0.0
		WE	125	50	9	2	11.2
	Nov 04	WD	125	50	4	1	5.2
		WE	125	50	5	2	8.0
	Dec 04	WD	125	50	4	1	5.2
		WE	125	50	1	1	2.8

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicles	Vehicle w/ Boat Trailer	Percent of Capacity Reached
Informal Tailrace Access	Jan 05	WD	50	20	0	0	0.0
		WE	50	20	2	2	14.0
	Feb 05	WD	50	20	1	0	2.0
		WE	50	20	1	1	7.0
	Mar 05	WD	50	20	5	2	20.0
		WE	50	20	6	4	32.0
	Apr 04	WD	50	20	15	2	40.0
	_	WE	50	20	16	4	52.0
	May 04	WD	50	20	11	6	52.0
	•	WE	50	20	8	2	26.0
		HOL	50	20	8	2	26.0
	Jun 04	WD	50	20	7	4	34.0
		WE	50	20	9	4	38.0
	Jul 04	WD	50	20	5	2	20.0
		WE	50	20	4	2	18.0
		HOL	50	20	6	1	17.0
	Aug 04	WD	50	20	4	2	18.0
		WE	50	20	3	1	11.0
	Sep 04	WD	50	20	2	1	9.0
		WE	50	20	7	3	29.0
		HOL	50	20	2	0	4.0
	Oct 04	WD	50	20	6	2	22.0
		WE	50	20	5	2	20.0
	Nov 04	WD	50	20	1	0	2.0
		WE	50	20	1	1	7.0
	Dec 04	WD	50	20	2	2	14.0
		WE	50	20	1	1	7.0

	∠ocatio 1		Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicles	Vehicle w/ Boat Trailer	Percent of Capacity Reached
Blewett Portage	Falls	Canoe	Jan 05	WD	20	8	1	0	5.0
oriuge				WE	20	8	0	0	0.0
			Feb 05	WD	20	8	0	0	0.0
				WE	20	8	1	0	5.0
			Mar 05	WD	20	8	1	0	5.0
				WE	20	8	1	0	5.0
			Apr 04	WD	20	8	8	9	152.5
			-	WE	20	8	10	1	62.5
			May 04	WD	20	8	3	0	15.0
			•	WE	20	8	6	0	30.0
				HOL	20	8	20	1	112.5
			Jun 04	WD	20	8	4	0	20.0
				WE	20	8	14	0	70.0
			Jul 04	WD	20	8	4	0	20.0
				WE	20	8	1	0	5.0
				HOL	20	8	18	0	90.0
			Aug 04	WD	20	8	2	0	10.0
				WE	20	8	10	1	62.5
			Sep 04	WD	20	8	2	0	10.0
				WE	20	8	5	0	25.0
				HOL	20	8	6	0	30.0
			Oct 04	WD	20	8	1	0	5.0
				WE	20	8	3	0	15.0
			Nov 04	WD	20	8	1	0	5.0
				WE	20	8	2	0	10.0
			Dec 04	WD	20	8	1	0	5.0
				WE	20	8	1	0	5.0

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicles	Vehicle w/ Boat Trailer	Percent of Capacity Reached
Grassy Islands Access Area	Jan 05	WD	30	12	2	2	23.3
1/64		WE	30	12	2	1	15.0
	Feb 05	WD	30	12	1	1	11.7
		WE	30	12	2	1	15.0
	Mar 05	WD	30	12	3	2	26.7
		WE	30	12	3	3	35.0
	Apr 04	WD	30	12	5	4	50.0
	_	WE	30	12	16	12	153.3
	May 04	WD	30	12	8	7	85.0
		WE	30	12	5	4	50.0
		HOL	30	12	14	13	155.0
	Jun 04	WD	30	12	4	3	38.3
		WE	30	12	4	4	46.7
	Jul 04	WD	30	12	10	10	116.7
		WE	30	12	5	5	58.3
		HOL	30	12	6	5	61.7
	Aug 04	WD	30	12	3	3	35.0
		WE	30	12	4	3	38.3
	Sep 04	WD	30	12	3	2	26.7
		WE	30	12	3	3	35.0
		HOL	30	12	2	2	23.3
	Oct 04	WD	30	12	2	2	23.3
		WE	30	12	6	2	36.7
	Nov 04	WD	30	12	3	2	26.7
		WE	30	12	7	4	56.7
	Dec 04	WD	30	12	3	1	18.3
		WE	30	12	2	1	15.0

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicles	Vehicle w/ Boat Trailer	Percent of Capacity Reached
Highway 109	Jan 05	WD	57	25	1	1	5.8
		WE	57	25	2	2	11.5
	Feb 05	WD	57	25	0	0	0.0
		WE	57	25	0	0	0.0
	Mar 05	WD	57	25	2	2	11.5
		WE	57	25	1	1	5.8
	Apr 04	WD	57	25	3	2	13.3
		WE	57	25	5	3	20.8
	May 04	WD	57	25	3	3	17.3
	-	WE	57	25	1	0	1.8
		HOL	57	25	1	0	1.8
	Jun 04	WD	57	25	5	4	24.8
		WE	57	25	5	5	28.8
	Jul 04	WD	57	25	4	3	19.0
		WE	57	25	9	6	39.8
		HOL	57	25	2	2	11.5
	Aug 04	WD	57	25	1	0	1.8
		WE	57	25	3	2	13.3
	Sep 04	WD	57	25	1	1	5.8
		WE	57	25	3	3	17.3
		HOL	57	25	2	0	3.5
	Oct 04	WD	57	25	1	0	1.8
		WE	57	25	2	1	7.5
	Nov 04	WD	57	25	0	0	0.0
		WE	57	25	1	0	1.8
	Dec 04	WD	57	25	3	3	17.3
		WE	57	25	2	1	7.5

Location	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicles	Vehicle w/ Boat Trailer	Percent of Capacity Reached
Informal SR 1744	Jan 05	WD	25	10	0	0	0.0
		WE	25	10	0	0	0.0
	Feb 05	WD	25	10	1	0	4.0
		WE	25	10	2	2	28.0
	Mar 05	WD	25	10	1	0	4.0
		WE	25	10	1	1	14.0
	Apr 04	WD	25	10	15	5	110.0
		WE	25	10	16	2	84.0
	May 04	WD	25	10	7	3	58.0
	•	WE	25	10	17	5	118.0
		HOL	25	10	11	1	54.0
	Jun 04	WD	25	10	5	0	20.0
		WE	25	10	15	2	80.0
	Jul 04	WD	25	10	14	1	66.0
		WE	25	10	10	3	70.0
		HOL	25	10	15	2	80.0
	Aug 04	WD	25	10	1	1	14.0
		WE	25	10	6	0	24.0
	Sep 04	WD	25	10	1	0	4.0
		WE	25	10	2	0	8.0
		HOL	25	10	3	1	22.0
	Oct 04	WD	25	10	1	1	14.0
		WE	25	10	3	0	12.0
	Nov 04	WD	25	10	0	0	0.0
		WE	25	10	2	1	18.0
	Dec 04	WD	25	10	0	0	0.0
		WE	25	10	0	0	0.0

Location Month		Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicles	Vehicle w/ Boat Trailer	Percent of Capacity Reached	
Pee Dee Access Area	Jan 05	WD	95	70	1	1	2.5	
		WE	95	70	2	2	5.0	
	Feb 05	WD	95	70	1	1	2.5	
		WE	95	70	4	4	9.9	
	Mar 05	WD	95	70	6	5	13.5	
		WE	95	70	5	5	12.4	
	Apr 04	WD	95	70	35	29	78.3	
		WE	95	70	58	50	132.5	
	May 04	WD	95	70	29	22	62.0	
	•	WE	95	70	57	37	112.9	
		HOL	95	70	19	17	44.3	
	Jun 04	WD	95	70	12	10	26.9	
		WE	95	70	68	37	124.4	
	Jul 04	WD	95	70	62	46	131.0	
		WE	95	70	36	24	72.2	
		HOL	95	70	66	46	135.2	
	Aug 04	WD	95	70	8	7	18.4	
		WE	95	70	61	45	128.5	
	Sep 04	WD	95	70	3	3	7.4	
	-	WE	95	70	12	10	26.9	
		HOL	95	70	6	6	14.9	
	Oct 04	WD	95	70	6	6	14.9	
		WE	95	70	8	8	19.8	
	Nov 04	WD	95	70	3	2	6.0	
		WE	95	70	12	11	28.3	
	Dec 04	WD	95	70	1	1	2.5	
		WE	95	70	8	8	19.8	

Loca	tion	Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicles	Vehicle w/ Boat Trailer	Percent of Capacity Reached
Blewett Tailwater Access Area		Jan 05	WD	50	10	2	0	4.0
1100000 111 000			WE	50	10	1	0	2.0
		Feb 05	WD	50	10	2	0	4.0
			WE	50	10	3	0	6.0
		Mar 05	WD	50	10	6	1	22.0
			WE	50	10	4	1	18.0
		Apr 04	WD	50	10	11	0	22.0
			WE	50	10	9	0	18.0
		May 04	WD	50	10	10	1	30.0
			WE	50	10	11	0	22.0
			HOL	50	10	12	0	24.0
		Jun 04	WD	50	10	11	0	22.0
			WE	50	10	11	0	22.0
		Jul 04	WD	50	10	15	0	30.0
			WE	50	10	12	1	34.0
			HOL	50	10	7	0	14.0
		Aug 04	WD	50	10	8	0	16.0
			WE	50	10	13	0	26.0
		Sep 04	WD	50	10	3	0	6.0
			WE	50	10	6	0	12.0
			HOL	50	10	19	0	38.0
		Oct 04	WD	50	10	13	0	26.0
			WE	50	10	5	0	10.0
		Nov 04	WD	50	10	3	0	6.0
			WE	50	10	7	0	14.0
		Dec 04	WD	50	10	1	0	2.0
			WE	50	10	5	0	10.0

Table 138 Percentage of Lake Tillery respondents to level of crowding and boating density.

density.								
		Total						
	Low		Medium		Peak		Total (n=1209)	
	%	n	%	n	%	n	(H=1207)	
Level of Crowding Concern								
Low	5.4	10	17.5	85	10	54	131	
Medium	4.3	8	2.5	12	8	43	43	
High	1.1	2	3.7	18	1.9	10	16	
Did not Address	89.1	164	76.3	371	80.1	432	521	
						X^2	43.08***	
How crowded was the Lake today?								
Not Crowded	79.1	102	54.4	197	54.1	119	418	
Acceptable	8.5	11	32.6	118	31.8	70	199	
Very Crowded	1.6	2	3.6	13	4.1	9	24	
Did not Address	10.9	14	9.4	34	10	22	70	
						X^2	34.25***	
How crowded were the access points today?								
Not Crowded	89.1	115	58	210	48.6	107	432	
Acceptable	10.1	13	31.2	113	36.4	80	206	
Very Crowded	.8	1	15	8	6.8	15	24	
Did not Address	0	0	18	31	8.2	18	49	
						X^2	143.6***	
***n< 001								

Estimated boating density was calculated by taking the maximum number of boats with trailers and maximum number of jet skis counted for a particular type of day (weekday, weekend, holiday) in a given month. Boating density variables were created from the amount of estimated boat use on a given day within a given month (see Table 140).

Table 139 Percentage of Blewett Falls Lake respondents to level of crowding and boating density.

	Boating Density ¹							
-	Low		Medium		Peak		Total (n=521)	
	%	n	%	n	%	n	(11–321)	
Level of Crowding Concern								
Low	5.4	7	14.6	53	32.3	71		
Medium	0	0	6.6	24	8.6	19		
High	0	0	3	11	2.3	5		
Did not Address	94.6	122	75.7	274	56.8	125		
						X^2	68.29***	
How crowded was the Lake today?								
Not Crowded	79.3	146	52.9	257	39.7	214	617	
Acceptable	6.5	12	31.9	155	42.9	231	398	
Very Crowded	1.6	3	4.1	20	8.9	48	71	
Did not Address	12.5	23	11.1	54	8.5	46	123	
						X^2	117.5***	
How crowded were the access points today?								
Not Crowded	87.5	161	63.2	307	41.4	223	691	
Acceptable	7.6	14	31.7	154	42.9	231	399	
Very Crowded	1.6	12	2.5	12	8	43	58	
Did not Address	3.3	13	2.7	13	7.8	42	61	
						X^2	143.6***	

Estimated boating density was calculated by taking the maximum number of boats with trailers and maximum number of jet skis counted for a particular type of day (weekday, weekend, holiday) in a given month. Boating density variables were created from the amount of estimated boat use on a given day within a given month (see Table 142).

Table 140 Lake Tillery total estimated maximum daily watercraft by month.

Visitor Boat Est.	TD 6	Boat Jet		Total Watercraft	Monthly	Range Per Day		
	Type of Day		Jet Ski		Resident Estimate	WD	WE	Holiday
I 05	WD	20.0	0	20	92	102		N/A
Jan 05	WE	32	0	32	82	102	114	
Feb 05	WD	29	0	29	93	122	124	N/A
Fe0 03	WE	31	0	31	93	122	124	
Mar 05	WD	23	0	23	157	180	227	N/A
Wiai 03	WE	70	0	70	137	160	221	1 V / A
Apr 04*	WD	44	1	45	157	202	432	N/A
Apr 04*	WE	262	13	275	137	202	432	IN/A
	WD	78	4	82			594	536
May 04	WE	136	12	148	446	528		
	Hol	79	11	90				
Jun 04	WD	52	11	63	585	648	790	N/A
Juli 04	WE	176	29	205				
	WD	69	7	76	573	649	781	
Jul 04	WE	176	32	208				845
	Hol	233	39	272				
Aug 04	WD	31	4	35	499	534	615	N/A
Aug 04	WE	101	15	116	-	334	013	11/71
	WD	31	0	31		484	529	
Sep 04	WE	68	8	76	453			516
	Hol	56	7	63				
Oct 04	WD	35	0	35	273	308	354	N/A
	WE 77 4 81	213	300	337	1 1/ /1			
Nov 04	WD	23	0	23	139	162	185	N/A
1107 04	WE	46	0	46	139	102	103	1 1/ 1
Dec 04	WD	33	0	33	122	155	149	N/A
DCC 04	WE	27	0	27	122	133	17/	

^{*}Residents were not surveyed during the month of April, March estimates were utilized.

Table 141 Lake Tillery estimated maximum resident watercraft use.

	Motorb	oating	Jet Sk	iing	Lake Ca	noeing	Boat Fig	shing*	Estimated
Month	Avg. Days Per Month	Avg. Boats Per Day	Avg. Days Per Month	Avg. Boats Per Day	Avg. Days Per Month	Avg. Boats Per Day	Avg. Days Per Month	Avg. Boats Per Day	Maximum Total Boats on a Day**
January	1.21	73	0.19	11	0.23	14	0.94	7	82
February	1.32	88	0.28	17	0.16	10	0.64	5	93
March	2.21	134	0.78	47	0.21	13	1.11	8	157
May	5.82	352	3.18	192	0.22	13	1.91	14	446
June	7.17	448	4.43	268	0.29	18	2.35	17	585
July	7.35	444	3.99	241	0.51	31	2.59	19	573
August	6.55	396	3.35	203	0.45	27	1.89	14	499
September	5.66	354	3.03	183	0.47	28	2.11	15	453
October	3.63	219	1.72	104	0.25	15	1.63	12	273
November	2.03	127	0.55	33	0.16	10	1.11	8	139
December	1.62	98	0.39	24	0.39	24	1.52	11	122

^{*}Boat Fishing: this figure assumes that 88% of boat anglers are also motorboaters.

Table 142 Blewett Falls Lake total visitor watercraft daily estimate by month.

Month	Type of Day	Boat Trailers	Jet Skis	Total Est. Watercraft
Jan 05	WD	5	0	5
Jan 03	WE	8	0	8
Feb 05	WD	3	0	3
re0 03	WE	10	0	10
Man 05	WD	15	0	15
Mar 05	WE	18	0	18
A === 0.1	WD	52	0	52
Apr 04	WE	76	4	80
	HOL	36	2	38
May 04	WD	45	1	46
	WE	50	6	56
Jun 04	WD	23	1	24
Juli 04	WE	55	7	62
	HOL	58	5	63
Jul 04	WD	64	6	70
	WE	43	6	49
Aug 04	WD	15	0	15
Aug 04	WE	57	7	64
	HOL	11	0	11
Sep 04	WD	8	0	8
	WE	21	1	22
0-4.04	WD	11	0	11
Oct 04	WE	15	1	16
Nov. 04	WD	5	0	5
Nov 04	WE	19	0	19
Dec 04	WD	8	0	8
Dec 04	WE	12	0	12

^{**}Assumes 22 percent of resident boats have been accounted for at public access areas.

Primary Use(s): boating	Description	Capacity	Condition
Boat Ramp	Paved ramp	2 lanes	Good
Boat Dock	Wooden dock	3 boats	Good
Navigation/Info Buoy	No wake buoy		Good
Shoreline Fishing Access	Shoreline around cove	5-10	Fair
Shade Trees/Grass Area	Shade around shoreline		Good
Main Paved Access Road	Paved road	2 lane	Good
Secondary Gravel or Dirt Access Road	Gravel road into lot	2 lane	Good
Vehicle Parking Area	Gravel and grass back lot	90	Good
Boat Trailer Parking Area	Gravel and grass back lot	50	Good
Signs	Area regulations		Good

Table 144 Lake Tillery facility inventory and assessment - Informal SR 1740 & 1745.

Primary Use(s): bank fishing	Description	Capacity	Condition
Boat Ramp	Primitive ramp	1 lane	Poor
Shoreline Fishing Access	Grassy area along road	20-25	Fair/excessive litter
Swimming Beach	Small beach with low water		Fair
Main Paved Access Road	SR 1740	2 lane	Good
Vehicle Parking Area	Small gravel lots (3)	25	Fair/excessive litter
Boat Trailer Parking Area	Small gravel lots (3)	10	Fair/excessive litter

Table 145 Lake Tillery facility inventory and assessment - Stony Mountain Access.

Primary Use(s): bank fishing; boating	Description	Capacity	Condition
Boat Ramp	Paved ramp	2 lanes	Good
Boat Dock	Wooden dock	3 boats	Good
Navigation/Info Buoy	No wake buoy		Good
Shoreline Fishing Access	Bank fishing around point	30-35	Fair/excessive litter
Primitive Campsite	Clearings in trees (illegal)	5-10 sites	Poor/excessive litter
Shade Trees/Grass Area	Many trees along shore		Good
Multi-Use Trail	Trail along water through woods		Good/excessive litter
Main Paved Access Road	Lake Tillery Drive	2 lane	Good
Secondary Gravel or Dirt Access Road	Gravel road to lot	2 lane	Good
Vehicle Parking Area	Gravel and grass lot	155	Good
Boat Trailer Parking Area	Gravel and grass lot	60	Good
Signs	Area regulations		Good

Table 146 Lake Tillery facility inventory and assessment - Swift Island Access.

Primary Use(s): boating	Description	Capacity	Condition
Boat Ramp	Paved ramps	4 lanes	Good
Boat Dock	Wooden docks	8-10 boats	Good
Navigation/Info Buoy	No wake buoys		Good
Shoreline Fishing Access	Fishing around parking lot	5-10	Good
Main Paved Access Road	Highway 24/27	2 lane	Under repair
Vehicle Parking Area	Gravel and side grass lot	500	Good
Extra Vehicle Parking Area	Grass lot in back	100	Good
Boat Trailer Parking Area	Gravel and side grass lot	200	Good
Extra Boat Trailer Parking Area	Grass lot in back	40	Good
Signs	Area regulations		Good

Table 147 Lake Tillery facility inventory and assessment - Lilly's Bridge Access.

Primary Use(s): pier fishing; boating	Description	Capacity	Condition
Boat Ramp	Paved ramps	2 lanes	Good
Boat Dock	Wooden docks	6 boats	Good
Navigation/Info Buoy	No wake buoy		Good
Pier/Dock Fishing	Old bridge and old pier	Bridge 50-100/ Dock 10-15	Good
Shoreline Fishing Access	Some bank fishing around ramps	10	Good
Shade Trees/Grass Area	Some shade around shore		
Main Paved Access Road	Lilly's Bridge Road	2 lane	Good
Secondary Gravel or Dirt Access Road	Short gravel road into lot	2 lane	Good
Vehicle Parking Area	Gravel lot	150	Good
Extra Vehicle Parking Area	Grass lot	50	Good
Boat Trailer Parking Area	Gravel lot	60	Good
Extra Boat Trailer Parking Area	Grass lot	20	Good
Signs	Area regulation signs		Good

Table 148 Lake Tillery facility inventory and assessment - Informal Tailwater Access Area.

Primary Use(s): tailrace fishing	Description	Capacity	Condition
Boat Ramp	Primitive boat launch	1 lane	Poor
Shoreline Fishing Access	Large open area along water	50-100	Good/some litter
Shade Trees/Grass Area	Some shade trees along bank		Fair
Main Paved Access Road	Power plant road	2 lane	Good
Secondary Gravel or Dirt Access Road	Gravel road to water edge	1 lane	Fair/very steep
Upper Vehicle Parking Area	Gravel lot	30	Good
Lower Vehicle Parking Area	Clearing next to ramp	15	Good
Upper Boat Trailer Parking Area	Gravel lot	6	Good
Lower Boat Trailer Parking Area	Clearing next to ramp	6	Good

Table 149 Lake Tillery facility inventory and assessment - Tillery Canoe Portage.

Primary Use(s): bank fishing	Description	Capacity	Condition
Navigation/Info Buoy	Warning buoy line before dam		Good
Shoreline Fishing Access	Clearings along shore	25-30	Good/some litter
Path to Facilities	Canoe portage trail to tailrace		Fair
Trail Sign	Portage route sign		Good
Secondary Gravel or Dirt Access Road	Gravel road from 731	2 lane	Fair
Vehicle Parking Area	Dirt lot and small clearings	25	Fair/some litter
Boat Trailer Parking Area	Dirt lot and small clearings	10	Fair/some litter
Signs	Spillway danger and portage route		Good

Table 150 Blewett Falls Lake facility inventory and assessment - U.S. Highway 74 Site.

Primary Use(s): bank; boat fishing	Description	Capacity	Condition
Boat Ramp	Concrete ramp	1 lane	Good
Boat Dock	Small wooden dock	2 boats	Good
Shoreline Fishing Access	Small clearings on bank	5	Fair
Shade Trees/Grass Area	Two grassy areas		Good
Main Paved Access Road	Highway 74	4 lane highway	Good
Secondary Gravel/Dirt Access Road	Gravel road to lot	2 lane	Good
Vehicle Parking Area	Gravel and grass lot	125	Good
Boat Trailer Parking Area	Gravel and grass lot	50	Good
Signs	Some regulation signs		Good

Table 151 Blewett Falls Lake facility inventory and assessment - Informal Tailrace Access.

Primary Use(s): bank fishing; boating	Description	Capacity	Condition
Boat Ramp	1 concrete ramp, 2 dirt	1 lane ea.	Fair - Poor
Shoreline Fishing Access	Some clearings along shoreline	20-25	Good
Swimming Beach	Beach exposed at low water		Fair
Safety Equipment/Signs	Danger sign for spillway		Good
Secondary Gravel/Dirt Access Road	Blewett Falls Road	2 lane	Good
Vehicle Parking Area	Gravel and dirt lot	50	Fair; some erosion damage
Boat Trailer Parking Area	Gravel and dirt lot	20	Fair; some erosion damage
Signs	Spillway danger sign		Good

Table 152 Blewett Falls Lake facility inventory and assessment - Blewett Falls Canoe Portage.

Primary Use(s): swimming; fishing	Description	Capacity	Condition
Navigation/Info Buoy	Buoy in front of dam		Good
Shoreline Fishing Access	Shoreline around portage cove	10-20	Fair; excessive litter
Shade Trees/Grass Area	Shady grassy area around cove		Fair; excessive litter
Swimming Beach	Small beach around portage cove	20-30	Fair; excessive litter
Path to Facilities	Path to tailrace fishing and cove		Fair
Main Paved Access Road	Blewett Falls Road	2 lane	Good
Secondary Gravel/Dirt Access Road	Gravel road to parking area	1 lane	Poor; holes; excessive litter
Vehicle Parking Area	Cul-de-sac, small clearing off road, and shoulders	20	Poor; holes; excessive litter
Boat Trailer Parking Area	Cul-de-sac, small clearing off road, and shoulders	8	Poor; holes; excessive litter
Signs	Portage trail signs		Good

Table 153 Blewett Falls Lake facility inventory and assessment - Grassy Islands Access.

Primary Use(s): boat launch	Description	Capacity	Condition
Boat Ramp	Concrete ramp	1 lane	Fair
Shoreline Fishing Access	Grassy area along bank	10	Good
Interpretive Display	Hydroelectric project and map		Good
Shade Trees/Grass Area	Small grassy area around lot		Good
Main Paved Access Road	Grassy Islands Road	2 lane	Good
Secondary Gravel/Dirt Access Road	Secondary gravel road	2 lane	Good
Vehicle Parking Area	Gravel lot with some grass	30	Good
Boat Trailer Parking Area	Gravel lot with some grass	12	Good
Signs	Area regulations		Good

Table 154 Blewett Falls Lake facility inventory and assessment - Highway 109.

Primary Use(s): boating; bank fishing	Description	Capacity	Condition
Boat Ramp	Concrete ramp	1 lane	Fair
Boat Dock	Wooden frame with metal grate	3 boats	Good
Shoreline Fishing Access	50 yards of open bank		Good
Shade Trees/Grass Area	Large open grassy area with shade		Good
Multi-Use Trail	Dirt road along bank		
Main Paved Access Road	Highway 109	2 lane	Good
Secondary Gravel/Dirt Access Road	Gravel	1 lane	Good
Vehicle Parking Area	Open grassy area	57	Good
Boat Trailer Parking Area	Open grassy area	25	Good
Signs	Area regulations		Good

Table 155 Blewett Falls Lake facility inventory and assessment - Informal SR 1744 Site.

Primary Use(s): picnicking; fishing	Description	Capacity	Condition
Boat Ramp	Informal/unpaved launch	1 lane	Fair
Shoreline Fishing Access	Open areas along bank	20-30	Fair; excessive litter
Shade Trees/Grass Area	Shade trees and grassy area		Good; excessive litter
Swimming Beach	When water is low beach is exposed	15-20 people	Good
Main Paved Access Road	SR 1744	2 lane	Good
Secondary Gravel/Dirt Access Road	Dirt road	1 lane	Fair
Vehicle Parking Area	Grassy and dirt open areas	25	Fair
Boat Trailer Parking Area	Grassy and dirt open areas	10	Fair

Table 156 Blewett Falls Lake facility and inventory assessment - Pee Dee Access Area.

Primary Use(s): boating	Description	Capacity	Condition
Boat Ramp	Double ramp	4 (2 lanes each)	Good
Boat Dock	1 ramp with 2 docks/1 ramp with 1 dock	6-10 boats	Good
Navigation/Info Buoy	2 no wake buoys		Good
Shoreline Fishing Access	Banks accessible from lot		Good
Accessible Campsite	Dirt roads lead to campsite		
Interpretive Display	PE Hydroelectric Project and Map		Good
Main Paved Access Road		2 lane	Good
Secondary Gravel/Dirt Access Road		2 lane	Good
Vehicle Parking Area	Gravel lot with cable dividers	95	Good
Boat Trailer Parking Area	Gravel lot with cable dividers	70	Good
Signs	Area regulations and parking		Good

Table 157 Blewett Falls Lake facility inventory and assessment - Blewett Tailwater Access Area.

Primary Use(s): bank; pier fishing	Description	Capacity	Condition
Boat Ramp	Private 1 lane gravel ramp	1 lane	Fair
Navigation/Info Buoy	Warning buoy line around discharge		Good
Pier/Dock Fishing	Concrete pier above discharge	50-75	Good; some litter
Shoreline Fishing Access	Approximately 100 yards of shoreline	20-30	Good; some litter
Shade Trees/Grass Area	Large shady area along river		Good; some litter
Path to Facilities	Cement walkway		Good
Multi-Use Trail	Path along shoreline/dirt		Fair
Main Paved Access Road	Power Plant Road	2 lane	Excellent
Secondary Gravel/Dirt Access Road	Private/leads to boat ramp		Fair
Vehicle Parking Area	Paved parking lot	50	Good
Boat Trailer Parking Area	Paved parking lot	10-20	Good
Garbage Disposal	Plastic trash cans (4)	50 gallon tubs	Good
Lighting	Parking lot/Power plant		Good
Signs	Hydroelectric Project Sign		Good

Table 158 Blewett/Tillery - downstream boat counts.

Table 158	Biewett/ I	illery - downstre	am boat counts.		
Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
			May 2004		
1	830	Rain	1	0	0
	1500	Cloudy	4	0	0
2	800	Rain	0	0	0
	1745	Rain	0	0	0
3	940	Rain	0	1	0
	1610	Sunny	0	0	2
4	800	Sunny	1	2	1
	1730	Sunny	2	0	0
5	900	Sunny	0	0	1
	1800	Sunny	3	0	2
6	900	Sunny	2	0	1
	1900	Sunny	6	1	0
7	820	Sunny	2	0	0
	1420	Sunny	2	0	0
8	1050	Sunny	6	0	0
	1420	Sunny	5	0	1
9	1300	Sunny	7	0	1
	1600	Sunny	0	0	1
10	945	Sunny	1	0	0
	1745	Sunny	1	0	0
11	800	Foggy	0	0	0
	1800	Sunny	0	0	0
12	900	Cloudy	1	0	0
	1600	Cloudy	3	0	0
13	1000	Cloudy	0	0	0
	1800	Clear	5	0	0
14	700	Sunny	0	1	2
	1600	Sunny	0	1	1
15	600	Clear	0	0	0
	1900	Sunny	4	1	3
16	930	Sunny	1	1	1
	1430	Sunny	1	0	0
17	830	Sunny	0	0	0
·	1800	Sunny	0	2	1
18	1330	Sunny	0	0	0
	1630	Sunny	0	0	0
19	1730	Sunny	1	0	0
·	1900	Sunny	2	0	0
20	1100	Sunny	1	1	0
	1600	Sunny	1	0	1
21	815	Partly Cloudy	0	0	1
	1630	Partly Cloudy	0	0	1
22	700	Partly Cloudy	0	0	1
	1730	Cloudy	0	0	0
23	1000	Partly Cloudy	2	0	2
24	1140				
24					
25	920	C.,	Company mat are alless	Λ	0
25	830	Sunny	Camera not working	0	0

26 27 1 28 1 29 1 30 1 31 1 1 2 1 3 4 1 5 6 7 1 8 9 1 10 11 12 13 14 14 1	530 830 700 000 630 000 530 030 730 900 430 700 800	Cloudy Sunny Overcast Sunny Sunny Overcast Overcast Sunny Sunny Overcast Overcast Overcast Overcast Overcast	0 0 1 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0
1 27 1 1 28 1 1 30 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	700 000 630 000 530 030 730 990 430 700 800	Overcast Sunny Sunny Overcast Overcast Sunny Sunny Overcast Overcast Overcast	1 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
27	000 630 000 530 030 730 9900 430 700 800	Sunny Sunny Overcast Overcast Sunny Sunny Overcast Overcast	0 0 0 0 0 0 0	0 0 0 0	0 0 0 0
1 28 1 1 29 1 1 30	630 000 530 030 730 900 430 700 800	Sunny Overcast Overcast Sunny Sunny Overcast Overcast	0 0 0 0 0 0	0 0 0	0 0 0
28	000 530 030 730 900 430 700 800	Overcast Overcast Sunny Sunny Overcast Overcast	0 0 0 0 0	0 0 1	0
1 29 1 1 30	.530 .030 .730 .900 .430 .700 .800	Overcast Sunny Sunny Overcast Overcast	0 0 0 0	0 1	0
29	.030 .730 .900 .430 .700 .800	Sunny Sunny Overcast Overcast	0 0 0	1	
30 1 31 1 1 2 1 3 3 4 1 5 6 1 7 1 8 9 1 10 11 12 13 13 14 14 1	730 900 430 700 800	Sunny Overcast Overcast	0		Λ
30 1 31 1 1 1 2 1 3 4 1 5 6 7 1 8 9 1 10 11 12 13 14 14 14	900 430 700 800	Overcast Overcast	0	^	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	430 700 800	Overcast	*	0	0
31 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1700 1800 850			0	0
1 1 2 1 3 3 4 1 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1	850	Overcast	1	2	0
1	850		0	0	0
1 2 1 1 3 3 4 4 1 1 5 5 5 1 6 6 1 1 7 1 1 8 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Overcast	0	0	0
1 2 1 1 3 3 4 4 1 1 5 5 5 1 6 6 1 1 7 1 1 8 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			June 2004		
2 1 3 1 4 1 5 1 6 2 1 7 1 8 2 9 1 10 1 11 1 12 1 13 1 14 1		Sunny	Broken Camera	0	0
1 3 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	710	Sunny	Broken Camera	0	0
3 4 1 5 1 6 1 7 1 8 1 10 11 12 13 14 14	015	Sunny	Broken Camera	0	1
1 4 1 1 5 5 6 6 9 6 9 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	600	Sunny	Broken Camera	0	1
4 1 1 5 1 5 1 6 1 1 1 1 1 1 1 1 1 1 1 1 1	820	Mostly Cloudy	Broken Camera	0	0
5 6 7 1 8 9 10 11 12 13 14	530	Mostly Cloudy	Broken Camera	0	1
5 1 6 1 7 1 1 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	130	Cloudy	Broken Camera	0	0
1 6 1 7 1 1 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	700	Rain	Broken Camera	0	0
6 1 7 1 8 8 9 9 1 10 11 11 12 1 13 1 14 1 1	800	Cloudy	Broken Camera	0	0
1 7 1 1 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	600	Cloudy	Broken Camera	0	0
7 1 8 1 9 1 10 1 11 1 12 1 13 1 14 1	900	Rain	Broken Camera	0	0
1 8 9 1 10 11 11 12 13 13 14 14 1	600	Cloudy	Broken Camera	0	0
8 1 9 1 10 11 11 12 13 13 14 14 1	100	Cloudy	Broken Camera	0	0
10 11 11 12 13 13 14 14 1	900	Cloudy	Broken Camera	0	3
9 1 10 1 11 1 12 1 13 1 14 1	900	Cloudy	Broken Camera	0	1
10 11 11 12 11 13 13 14 14 11	730	Cloudy	Broken Camera	1	0
10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	730	Cloudy	Broken Camera	0	0
11 12 13 13 14 14 1	730	Cloudy	Broken Camera	0	1
11 12 1 12 1 13 1 14 1	800	Cloudy	Broken Camera	0	0
12 13 13 14 14	830	Sunny	Broken Camera	1	1
12 1 13 14 14	900	Sunny	Broken Camera	0	0
13 1 13 1 14 1	700	Ptly Cloudy	Broken Camera	0	0
13 1 14 1	800	Sunny	Broken Camera	0	2
1 14 1	600	Mostly Sunny	Broken Camera	0	0
14 1	825	Mostly Cloudy	Broken Camera	0	1
	120	Mostly Cloudy	Broken Camera	1	0
1	135	Mostly Cloudy	Broken Camera	0	0
1.5	700	Light Rain	Broken Camera	1	0
	130	Cloudy	Broken Camera - 0	0	0
	830	Cloudy	Broken Camera - 0	0	0
	800	Cloudy	Broken Camera - 0	0	0
	630	Rain	Broken Camera - 0	0	0
	030	Cloudy	Broken Camera - 0	0	0
		Ptly Cloudy	Broken Camera - 1	0	0
	430	Cloudy	Broken Camera	1	0
	1430 700	Cloudy	Broken Camera	1	1
19	430	Sunny Sunny	Broken Camera Broken Camera	1 0	2 2

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
20	630	Sunny	Broken Camera	0	0
	1800	Sunny	Broken Camera	1	1
21	400	Clear	Broken Camera	0	0
	1300	Cloudy	Broken Camera	1	1
22	1500	Ptly Cloudy	Broken Camera	0	0
	1700	Sunny	Broken Camera	0	0
23	900	Cloudy	Broken Camera	0	0
	1830	Rain	Broken Camera	0	0
24	1400	Cloudy	Broken Camera	0	0
	1700	Ptly Cloudy	Broken Camera	0	0
25	830	Ptly Cloudy	Broken Camera	0	0
	1730	Cloudy	Broken Camera	0	0
26	730	Cloudy	Broken Camera - 1	0	0
	1600	Ptly Cloudy	Broken Camera - 2	2	0
27	1130	Ptly Cloudy	Broken Camera - 0	0	0
	1800	Cloudy	Broken Camera - 0	0	0
28	900	Cloudy	Broken Camera - 1	0	1
	1830	Ptly Cloudy	Broken Camera - 0	0	1
29	1030	Sunny	Broken Camera - 0	0	0
	1800	Sunny	Broken Camera - 0	0	0
30	800	Sunny	Broken Camera	0	0
	1715	Sunny	Broken Camera	0	0
			July 2004		
1	800	Cloudy	Broken Camera	0	0
	1730	Cloudy	Broken Camera	0	1
2	1300	Cloudy	Broken Camera	0	0
	1730	Cloudy	Broken Camera	0	1
3	930	Cloudy	Broken Camera	0	0
	1400	Sunny	Broken Camera	0	1
4	730	Cloudy	Broken Camera	0	0
	1700	Sunny	Broken Camera	0	0
5	830	Sunny	Broken Camera	0	0
	1730	Sunny	Broken Camera	0	0
6	1120	Sunny	Broken Camera	0	0
	1510	Sunny	Broken Camera	0	0
7	905	Sunny	Broken Camera	0	0
	1625	Sunny	Broken Camera	0	1
8	805	Sunny	Broken Camera	0	0
	1710	Sunny	Broken Camera	0	1
9	800	Sunny	Broken Camera	0	0
	1700	Sunny	Broken Camera	1	0
10	730	Sunny	Broken Camera	0	0
	1800	Sunny	Broken Camera	0	0
11	830	Sunny	Broken Camera	0	0
	1700	Cloudy	Broken Camera	0	0
12	900	Cloudy	Broken Camera	0	0
-	1600	Cloudy	Broken Camera	0	0
13	700	Sunny	Broken Camera	0	0
	1700	Sunny	Broken Camera	0	1
14	815	Sunny	Broken Camera	0	0
	1735	Sunny	Broken Camera	0	0
15	900	Sunny	Broken Camera	1	1

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
	1800	Sunny	Broken Camera	1	2
16	815	Sunny	Broken Camera	0	0
-	1500	Sunny	Broken Camera	1	0
17	100	Clear	Broken Camera	0	1
	1430	Cloudy	Broken Camera	0	0
18	800	Cloudy	Broken Camera	0	0
	1635	Partly Cloudy	Broken Camera	0	0
19	945	Clear	Broken Camera	0	0
	1700	Partly Cloudy	Broken Camera	0	0
20	1100	Partly Cloudy	Broken Camera	0	0
	1410	Clear	Broken Camera	0	0
21	810	Sunny	Broken Camera	0	0
·	1750	Sunny	Broken Camera	1	0
22	810	Sunny	Broken Camera	0	0
	1745	Rain	Broken Camera	0	0
23	730	Sunny	Broken Camera	0	0
	1730	Sunny	Broken Camera	1	2
24	700	Sunny	Broken Camera	1	0
	1800	Sunny	Broken Camera	0	0
25	900	Sunny	Broken Camera	0	1
	1300	Sunny	Broken Camera	0	0
26	800	Sunny	Broken Camera	0	0
	1330	Sunny	Broken Camera	0	1
27	1100	Sunny	Broken Camera	0	0
20	1530	Rain	Broken Camera	0	0
28	1000 1730	Cloudy	Broken Camera	0	0
29	1045	Cloudy Cloudy	Broken Camera Broken Camera	0	0
	1730	Cloudy	Broken Camera	0	1
30	800	Cloudy	Broken Camera	0	0
	1600	Cloudy	Broken Camera	0	2
31	1140	Cloudy	Broken Camera	0	0
	1800	Cloudy	Broken Camera	0	0
	1000	•	August 2004	0	<u> </u>
1	700		Ŭ	0	0
1	1700	Cloudy Cloudy	Broken Camera	0	0
2	1100		Broken Camera	0	0
	1530	Partly Cloudy Partly Cloudy	Broken Camera Broken Camera	0	0
3	830	Partly Cloudy	Broken Camera	0	0
3	1730	Sunny	Broken Camera	0	0
4	800	Sunny	Broken Camera	0	0
	1600	Sunny	Broken Camera	0	0
5	730	Sunny	Broken Camera	0	0
	1700	Cloudy	Broken Camera	0	0
6	1000	Sunny	Broken Camera	0	0
	1730	Sunny	Broken Camera	0	0
7	800	Sunny	Broken Camera	0	0
<u> </u>	1700	Sunny	Broken Camera	2	0
8	1130	Sunny	Broken Camera	0	0
	1600	Sunny	Broken Camera	0	0
9	1000	Sunny	Broken Camera	0	0
	1630	Sunny	Broken Camera	0	1

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
10	815	Partly Cloudy	Broken Camera	0	0
	1745	Mostly Sunny	Broken Camera	0	1
11	805	Sunny	Broken Camera	0	0
	1405	Mostly Cloudy	Broken Camera	0	1
12	825	Cloudy	Broken Camera	0	0
	1510	Raining	Broken Camera	0	0
13	730	Raining	0	0	0
	1730	Raining	0	1	1
14	800	Raining	0	0	0
	1600	Sunny	0	0	0
15	900	Raining	0	0	0
	1700	Cloudy	1	1	0
16	1100	Cloudy	0	0	0
	1530	Partly Cloudy	1	0	0
17	800	Sunny	Broken Camera	0	0
	1800	Sunny	Broken Camera	0	1
18	700	Sunny	0	0	0
	1600	Sunny	1	1	1
19	900	Sunny	0	0	0
	1830	Sunny	2	1	0
20	830	Sunny	0	0	0
	1500	Partly Sunny	0	0	0
21	800	Partly Cloudy	0	0	0
	1730	Sunny	0	2	0
22	820	Mostly Cloudy	1	0	0
	1550	Mostly Cloudy	0	0	0
23	800	Mostly Cloudy	0	0	0
	1800	Partly Cloudy	1	1	0
24	730	Cloudy	0	0	0
25	1600 900	Sunny	0	0	0
25	1400	Sunny	0	0	0
26		Sunny			0
26	1100 1805	Sunny Partly Cloudy	0	0	0
27	730	, ,	0	0	0
	1630	Sunny Sunny	<u>0</u>	0	
28	630	Sunny	0	0	1 0
	1330	Sunny	1	1	2
29	700	Partly Cloudy	0	0	0
29	1800	Raining	0	0	0
30	700	Partly Cloudy	0	0	0
	1300	Sunny	1	1	0
31	1200	Rainy	0	0	0
	1700	Cloudy	0	0	0
	1700	<u> </u>	eptember 2004	<u> </u>	<u> </u>
1	900	Cloudy		0	0
1	1700	Cloudy	0	0	
	1020	•	0	0	0
2	1800	Sunny	0	0	0
3	830	Sunny	<u>0</u>	1	1
3	1410	Sunny	0	<u> </u>	0
4	900	Sunny	0		0
4	900	Cloudy	U	1	U

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
	1800	Partly Cloudy	0	0	0
5	1130	Sunny	0	0	0
	1700	Sunny	0	1	0
6	630	Cloudy	0	0	0
	1400	Cloudy	0	1	0
7	730	Rain	0	0	0
	1630	Rain	0	0	0
8	830	Rain	0	0	0
	1400	Sunny	0	0	0
9	730	Cloudy	0	0	0
	1700	Cloudy	0	0	0
10	700	Sunny	0	0	0
	1300	Sunny	0	0	0
11	1000	Sunny	0	0	0
10	1730	Sunny	1	0	0
12	1030	Sunny	1	1	0
- 10	1830	Sunny	1	0	0
13	800	Sunny	0	0	0
	1700	Pt Cldy	0	0	0
14	830	Cloudy	0	0	0
1.5	1420	Cloudy	0	0	0
15	1100	Cloudy	1	0	1
1.0	1410	Cloudy	0	1	0
16	810	Cloudy	0	0	0
17	1415	Cloudy	0	0	2
17	730	Cloudy	0	0	0
10	1700	Cloudy	1	0	1
18	900	Cloudy	0	0	0
10	1730	Cloudy	0	1	0
19	1045 1745	Sunny	1	0	0
20	730	Sunny	0	0	0
20		Sunny Sunny			
21	1645 800		0	0	0
21	1700	Sunny	0	<u>0</u>	<u>0</u>
22	630	Sunny	0	0	0
22	1200	Sunny Sunny	1	0	1
23	615	Sunny	0	0	0
23	1815	Sunny	1	1	1
24	950	Sunny	0	0	1
<i>2</i> 4	1610	Mostly Sunny	0	1	2
25	810	Sunny	0	0	0
23	1730	Partly Cloudy	0	0	0
26	815	Partly Cloudy	0	0	0
20	1730	Partly Cloudy	0	0	0
27	810	Cloudy	0	0	0
21	1545	Rain	0	0	0
28	825	Rain	0	0	0
20	1800	Clear	0	0	0
29	900	Clear	0	0	0
۵)	1530	Partly Cloudy	0	0	0

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
	1800	Clear	0	0	0
			October 2004		
1	800	Sunny	0	1	0
	1800	Sunny	0	1	1
2	900	Sunny	1 2	2	1
3	1600 1100	Sunny	2	0	0
3	1700	Sunny Rain	1 0	0	0
4	700	Foggy	0	0	0
4	1700	Partly Cloudy	0	0	0
5	1000	Sunny	0	0	0
	1700	Sunny	0	<u>0</u>	0
6	1045	Cloudy	0	0	0
	1930	Cloudy	0	0	0
7	700	Foggy	0	0	0
•	1630	Sunny	0	0	0
8	830	Sunny	0	0	0
	1630	Sunny	1	0	0
9	900	Sunny	0	0	0
	1715	Sunny	0	1	0
10	1130	Sunny	0	0	0
	1830	Clear	0	0	0
11	730	Partly Cloudy	0	0	0
	1630	Clear	0	0	1
12	830	Clear	2	0	0
	1420	Partly Cloudy	0	0	0
13	800	Rain	0	0	0
	1700	Sunny	0	0	0
14	1000	Sunny	0	0	0
	1800	Overcast	0	0	0
15	1030	Overcast	0	0	0
	1730	Sunny	0	0	0
16	830	Sunny	0	0	0
	1600	Sunny	0	1	0
17	1020	Sunny	0	0	0
10	1600	Sunny	0	0	0
18	1030	Sunny	0	0	0
10	1830	Sunny	0	0	0
19	810	Partly Sunny	0	0	0
20	1410 820	Partly Sunny	0	0	0
20	1430	Foggy Mostly Cloudy	0	0	0
21	800	Cloudy	3	0	0
۷1	1625	Cloudy	0	0	0
22	1130	Overcast	0	0	0
	1700	Overcast	0	0	0
23	930	Sunny	0	0	0
	1800	Overcast	0	0	0
	800	Rain	0	0	0
24					
24	1700	Overcast	0	1	0
25	1700 830	Overcast Cloudy	0	1 0	$\frac{0}{2}$

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
26	1000	Sunny	0	0	0
	1600	Sunny	0	0	0
27	700	Overcast	0	0	0
	1730	Overcast	1	0	1
28	900	Sunny	0	0	0
	1400	Sunny	0	0	0
29	825	Cloudy	0	0	0
	1615	Cloudy	0	0	0
30	810	Cloudy	0	0	0
	1725	Partly Sunny	0	0	0
31	830	Partly Cloudy	1	0	0
	1405	Sunny	0	0	0
			ovember 2004		
1	905	Overcast	0	0	0
	1540	Sunny	0	0	0
2	1030	Overcast	0	0	0
	1600	Partly Cloudy	0	0	0
3	730	Cloudy	0	0	0
	1700	Partly Cloudy	0	0	0
4	1030	Cloudy	0	0	0
	1630	Cloudy	0	0	0
5	700	Sunny	0	0	0
	1630	Sunny	1	0	1
6	1000	Sunny	0	0	0
	1400	Sunny	1	0	0
7	700	Sunny	0	0	0
	1645	Sunny	0	0	0
8	800	Sunny	<u> </u>	0	0
	1730	Sunny	-	0	1
9	1100 1645	Sunny	0	0	0
10	1020	Sunny	0	0	0
10	1700	Sunny	0	0	0
11	800	Sunny Partly Cloudy	0	0	0
11	1531	Rain	0	0	0
12	1130	Rain	0	0	0
12	1630	Rain	0	0	0
13	900	Cloudy	0	0	0
	1400	clear	0	0	0
14	700	clear	0	0	1
	1400	clear	0	0	0
15	900	clear	0	0	0
	1630	clear	0	0	0
16	800	Clear	0	0	0
	1700	Clear	0	0	0
17	830	Sunny	0	0	0
	1700	Clear	0	0	0
18	800	Sunny	0	0	0
	1600	Clear	0	0	0
19	1245	Clear	0	0	0
<u>-</u>	1530	Clear	0	0	0
20	930	Cloudy	0	0	0
	,50	2.544.5	•	•	0

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
	1730	Clear	0	0	0
21	930	Clear	0	0	0
	1600	Cloudy	2	0	0
22	1000	Cloudy	0	0	0
	1700	Cloudy	0	0	0
23	815	Rain	0	0	0
	1415	Cloudy	0	0	0
24	1120	Cloudy	0	0	0
	1625	Cloudy	0	0	0
25	815	Partly Cloudy	1	0	0
	1500	Windy	0	0	1
26	800	Sunny	0	0	0
	1600	Sunny	0	0	0
27	1000	Sunny	0	0	0
	1700	Cloudy	0	0	0
28	900	Cloudy	0	0	0
	1700	Clear	0	0	0
29	800	Sunny	0	0	0
	1400	Sunny	0	0	0
30	800	Sunny	0	0	0
	1700	Sunny	0	0	0
		D	ecember 2004		
1	730	Rain	0	0	0
	1600	Sunny	0	0	0
2	900	Sunny	0	0	0
	1700	Sunny	0	1	1
3	910	Mostly Sunny	0	0	1
	1410	Sunny	0	0	1
4	730	Foggy	0	0	0
	1730	Clear	0	0	0
5	900	Sunny	0	0	0
	1400	Sunny	1	0	0
6	830	Rain	0	0	0
	1600	Rain	0	0	0
7	940	Cloudy/Foggy	0	0	0
	1250	Cloudy	0	0	0
8	945	Sunny	0	0	0
	1400	Fair	0	0	0
9	830	Rain	0	0	0
	1535	Cloudy	0	0	0
10	800	Rain	0	0	0
	1700	Cloudy	0	0	0
11	920	Cloudy	1	0	0
	1410	Cloudy	0	0	0
12	830	Partly Cloudy	0	0	0
	1415	Fair	0	0	0
13	800	Sunny	0	0	0
	1630	Sunny	0	1	0
14	1100	Sunny	0	0	0
	1730	Partly Cloudy	0	0	0
15	900	Sunny	0	0	0
	1700	Sunny	0	0	0

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
16	1130	Sunny	0	0	0
-	1630	Sunny	0	0	0
17	1000	Partly Cloudy	0	0	0
	1600	Partly Cloudy	0	0	0
18	1100	Partly Cloudy	0	0	0
	1700	Clear	0	0	0
19	830	Cloudy	1	0	0
	1600	Cloudy	0	0	0
20	1030	Clear	0	0	0
	1700	Clear	0	0	0
21	715	Clear	0	0	0
	1330	Sunny	0	0	0
22	800	Sunny	0	0	0
	1600	Cloudy	0	0	0
23	830	Rain	0	0	0
	1815	Cloudy	0	0	0
24	900	Cloudy	1	0	0
	1600	Cloudy	0	0	0
25	1000	Cloudy	0	0	0
	1300	Cloudy	0	0	0
26	730	Snow / Ice	0	0	0
	1400	Cloudy	0	0	0
27	930	Clear	0	0	0
	1500	Clear	1	0	0
28	805	Clear	0	0	0
	1605	Sunny	0	0	0
29	810	Partly Cloudy	0	0	0
	1500	Sunny	0	0	0
30	805	Mostly Cloudy	0	0	0
	1415	Mostly Cloudy	0	0	0
31	730	Foggy	0	0	0
	1430	Clear	2	0	0
		J	January 2005		
1	900	Sunny	0	0	0
	1500	Sunny	0	1	0
2	800	Sunny	0	0	0
	1700	Sunny	1	0	0
3	830	Clear	0	0	0
	1630	Clear	1	0	0
4	900	Clear	1	0	0
	1500	Clear	0	0	1
5	1000	Clear	0	0	0
	1400	Clear	0	1	0
6	930	Clear	0	0	0
	1800	Clear	0	0	0
7	810	Partly Cloudy	0	0	0
	1545	Mostly Cloudy	0	0	0
8	920	Partly Sunny	0	0	0
	1425	Cloudy	0	0	0
9	845	Overcast	0	0	0
	1520	Sunny	0	0	0
10	900	Cloudy	0	0	0

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
11	730	Sunny	0	0	0
11		Overcast / Fog	0		0
10	1630	Cloudy		0	
12	1000 1600	Overcast / Fog	0	0	0
13	1100	Cloudy Cloudy		0	0
13	1500	Rain	0	0	0
1.4					
14	1030	Rain	0	0	0
1.5	1530	Cloudy	0	0	0
15	1100	Cloudy	0	0	0
1.6	1700	Cloudy/cold	0	0	0
16	830	Cloudy	0	0	0
1.7	1800	Fair	0	0	0
17	1000	Fair	0	0	0
10	1730	Clear	0	0	0
18	1200	Clear	0	0	0
	1530	Clear	0	0	0
19	900	Cloudy	0	0	0
	1600	Clear	0	0	0
20	800	Clear	0	0	0
	1700	Clear	0	0	0
21	1100	Cloudy	0	0	0
	1600	Cloudy	0	0	0
22	800	Cloudy	0	0	0
	1400	Cloudy	0	0	0
23	1000	Sunny	0	0	0
	1700	Sunny	0	0	0
24	1155	Sunny	0	0	0
	1600	Partly Cloudy	0	0	0
25	730	Clear	0	0	0
	1630	Clear	0	0	0
26	900	Sunny	1	0	0
	1600	Sunny	0	0	0
27	930	Sunny	0	0	0
	1630	Sunny	0	0	0
28	800	Partly Cloudy	0	0	0
	1500	Partly Cloudy	0	0	0
29	1000	Cloudy	0	0	0
	1500	Cloudy	0	0	0
30	800	Cloudy	0	0	0
	1800	Clear	0	0	0
31	700	Clear	0	0	0
	1430	Clear	0	0	0
		\boldsymbol{F}	ebruary 2005		
1	815	Light Snow	0	0	0
	1550	Partly Cloudy	0	0	0
2	805	Partly Cloudy	0	0	0
	1410	Cloudy	0	0	0
3	805	Rain	0	0	0
	1410	Rain	0	0	0
4	830	Sunny	0	0	0
	1600	Sunny	0	0	0
			~	-	-

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
5	900	Sunny	0	0	0
	1730	Clear	0	0	0
6	1000	Sunny	0	0	0
	1700	Clear	0	0	0
7	730	Sunny	0	0	0
	1800	Clear	0	0	0
8	1200	Clear	0	0	0
	1530	Clear	1	0	0
9	700	Cloudy	0	0	0
	1600	Rain	0	0	0
10	830	Sunny	0	0	1
	1530	Partly Cloudy	0	0	0
11	840	Sunny	0	0	0
	1420	Mostly Sunny	0	0	0
12	805	Sunny	0	0	0
	1410	Sunny	1	0	0
13	805	Sunny	0	0	0
	1410	Partly Sunny	1	0	0
14	830	Mostly Cloudy	0	0	0
	1430	Rain	0	0	0
15	900	Cloudy	0	0	0
	1300	Cloudy	0	0	Cameras Out
16	1100	Cloudy	0	0	Cameras Out
10	1600	Partly Cloudy	0	0	Cameras Out
17	1000	Partly Cloudy	0	0	Cameras Out
17	1700	Clear	1	1	Cameras Out
18	730	Clear	0	0	Cameras Out
10	1800	Clear	0	0	Cameras Out
19	900	Clear	0	0	Cameras Out
1)	1600	Clear	0	1	Cameras Out
20	1000	Rain	0	0	Cameras Out
20	1700	Cloudy	0	0	Cameras Out
21	800	Rainy	0	0	Cameras Out
21	1800	Cloudy	0	0	0
22	900	Foggy	0	0	0
22	1530	Clear	1	0	0
23	1100	Clear	0	0	0
23	1530	Clear	<u>0</u>	0	1
24	1200	Rain	0	0	0
24	1600	Rain	0	0	0
25	800	Partly Cloudy	0	0	0
23	1500	Clear	0	0	0
26			0	0	0
20	810 1410	Sunny Mostly Sunny	0	0	0
27		Mostly Sunny	0	0	0
41	805	Cloudy	0	0	0
20	1410	Cloudy		0	0
28	815	Rain	0		
	1400	Cloudy	0	0	0
			March 2005		
1	830	Sunny	0	0	0
	1715	Clear	0	0	0
2	900	Sunny	0	0	0

1600 Sunny 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1630 Sunny 0 0 4 1100 Sunny 0 0 1330 Sunny 0 0 0 5 1000 Sunny 0 0 0 6 800 Sunny 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0
4 1100 Sunny 0 0 1330 Sunny 0 0 5 1000 Sunny 2 0 1500 Sunny 0 0 0 6 800 Sunny 0 0 0 1600 Sunny 0 0 0 0 7 1100 Sunny 0 0 0 0 0 8 805 Rain 0	0 0 0 0 0 0 0 0 0 0 0 0 0
1330 Sunny 0 0 5 1000 Sunny 2 0 1500 Sunny 0 0 0 6 800 Sunny 0 0 0 1600 Sunny 0 0 0 0 7 1100 Sunny 0	0 0 0 0 0 0 0 0 0 0 0 0
5 1000 Sunny 0 0 1500 Sunny 0 0 6 800 Sunny 0 0 1600 Sunny 0 0 7 1100 Sunny 0 0 8 805 Rain 0 0 9 810 Partly Cloudy 0 0 9 810 Partly Cloudy 0 0 10 810 Partly Cloudy 0 0 11 830 Partly Cloudy 0 0 11 830 Sunny 0 0 11 830 Sunny 0 0 11 830 Sunny 0 0 12 915 Mostly Sunny 0 0 12 915 Mostly Sunny 0 0 13 1030 Sunny 0 0 13 1030 Sunny 0 <td< td=""><td>0 0 0 0 0 0 0 0 0 0 1 0 0</td></td<>	0 0 0 0 0 0 0 0 0 0 1 0 0
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1600 Sunny 0 0 7 1100 Sunny 0 0 1400 Sunny 0 0 8 805 Rain 0 0 1410 Mostly Cloudy 0 0 9 810 Partly Cloudy 0 0 10 810 Partly Cloudy 0 0 10 810 Partly Cloudy 0 0 11 830 Partly Cloudy 0 0 11 830 Sunny 0 0 11 830 Sunny 0 0 12 915 Mostly Sunny 0 0 12 915 Mostly Sunny 0 0 13 1030 Sunny 0 0 13 1030 Sunny 0 1 14 1015 Cloudy 0 0 15 1000 Sunny 0 0 <td>0 0 0 0 0 0 1 0 0</td>	0 0 0 0 0 0 1 0 0
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1410 Mostly Cloudy 0 0 9 810 Partly Cloudy 0 0 1410 Partly Cloudy 0 0 10 810 Partly Cloudy 0 0 10 810 Partly Cloudy 0 0 1515 Mostly Sunny 0 0 11 830 Sunny 0 0 1700 Rain 0 0 0 12 915 Mostly Sunny 0 0 0 12 915 Mostly Sunny 0 0 0 0 13 1030 Sunny 0 0 0 0 0 1 <td>0 0 1 0 0</td>	0 0 1 0 0
9 810 Partly Cloudy 0 0 1410 Partly Cloudy 0 0 10 810 Partly Cloudy 0 0 1515 Mostly Sunny 0 0 11 830 Sunny 0 0 1700 Rain 0 0 12 915 Mostly Sunny 0 0 13 1030 Sunny 0 0 13 1030 Sunny 2 1 1600 Sunny 0 1 14 1015 Cloudy 0 0 15 1000 Sunny 0 0 15 1000 Sunny 1 1 1600 Sunny 1 1 1 16 900 Rain 0 0 1730 Rain 0 0	0 1 0 0
1410 Partly Cloudy 0 0 10 810 Partly Cloudy 0 0 1515 Mostly Sunny 0 0 11 830 Sunny 0 0 1700 Rain 0 0 12 915 Mostly Sunny 0 0 13 1630 Sunny 0 0 13 1030 Sunny 2 1 1600 Sunny 0 1 14 1015 Cloudy 0 0 15 1000 Sunny 0 0 15 1000 Sunny 1 1 16 900 Rain 0 0 1730 Rain 0 0	1 0 0 0
10 810 Partly Cloudy 0 0 1515 Mostly Sunny 0 0 11 830 Sunny 0 0 1700 Rain 0 0 12 915 Mostly Sunny 0 0 1630 Sunny 0 0 13 1030 Sunny 2 1 1600 Sunny 0 1 14 1015 Cloudy 0 0 15 1000 Sunny 0 0 15 1000 Sunny 1 1 160 Sunny 1 1 1 16 900 Rain 0 0 1730 Rain 0 0	0 0 0
1515 Mostly Sunny 0 0 11 830 Sunny 0 0 1700 Rain 0 0 12 915 Mostly Sunny 0 0 1630 Sunny 0 0 13 1030 Sunny 2 1 1600 Sunny 0 1 14 1015 Cloudy 0 0 1600 Cloudy 0 0 15 1000 Sunny 0 0 16 900 Rain 0 0 1730 Rain 0 0	0
11 830 Sunny 0 0 1700 Rain 0 0 12 915 Mostly Sunny 0 0 1630 Sunny 0 0 13 1030 Sunny 2 1 1600 Sunny 0 1 14 1015 Cloudy 0 0 15 1000 Sunny 0 0 15 1000 Sunny 0 0 1600 Sunny 1 1 16 900 Rain 0 0 1730 Rain 0 0	0
1700 Rain 0 0 12 915 Mostly Sunny 0 0 1630 Sunny 0 0 13 1030 Sunny 2 1 1600 Sunny 0 1 14 1015 Cloudy 0 0 1600 Cloudy 0 0 15 1000 Sunny 0 0 1600 Sunny 1 1 16 900 Rain 0 0 1730 Rain 0 0	
12 915 Mostly Sunny 0 0 1630 Sunny 0 0 13 1030 Sunny 2 1 1600 Sunny 0 1 14 1015 Cloudy 0 0 1600 Cloudy 0 0 15 1000 Sunny 0 0 1600 Sunny 1 1 16 900 Rain 0 0 1730 Rain 0 0	Λ
1630 Sunny 0 0 13 1030 Sunny 2 1 1600 Sunny 0 1 14 1015 Cloudy 0 0 1600 Cloudy 0 0 15 1000 Sunny 0 0 1600 Sunny 1 1 16 900 Rain 0 0 1730 Rain 0 0	0
13 1030 Sunny 2 1 1600 Sunny 0 1 14 1015 Cloudy 0 0 1600 Cloudy 0 0 15 1000 Sunny 0 0 1600 Sunny 1 1 16 900 Rain 0 0 1730 Rain 0 0	0
1600 Sunny 0 1 14 1015 Cloudy 0 0 1600 Cloudy 0 0 15 1000 Sunny 0 0 1600 Sunny 1 1 1 16 900 Rain 0 0 1730 Rain 0 0 0	0
14 1015 Cloudy 0 0 1600 Cloudy 0 0 15 1000 Sunny 0 0 1600 Sunny 1 1 16 900 Rain 0 0 1730 Rain 0 0	
1600 Cloudy 0 0 15 1000 Sunny 0 0 1600 Sunny 1 1 16 900 Rain 0 0 1730 Rain 0 0	0
15 1000 Sunny 0 0 1600 Sunny 1 1 16 900 Rain 0 0 1730 Rain 0 0	0
1600 Sunny 1 1 16 900 Rain 0 0 1730 Rain 0 0	0
16 900 Rain 0 0 1730 Rain 0 0	0
1730 Rain 0 0	0
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17 800 Kaiii 0 0	0
1400 Rain 0 0	0
18 825 Sunny 0 0	0
, and the second	0
1410 Sunny 0 1 19 805 Sunny 0 0	0
1410 Partly Cloudy 0 0	0
20 1115 Sunny 1 0	0
1740 Sunny 1 0	1
21 805 Sunny 1 0	0
1500 Sunny 0 0	0
22 935 Partly Cloudy 0 0	1
17 Cloudy 1 0	0
23 820 Rain 0 0	0
1405 Partly Sunny 0 1	0
24 800 Sunny 0 0	0
1800 Sunny 0 0	0
25 930 Sunny 0 2	0
1600 Sunny 0 0	0
26 730 Cloudy 1 0	
1730 Cloudy 0 0	
27 945 Rain 0 0	0
1700 Cloudy 0 0	0
28 1100 Cloudy 0 1	0

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
	1545	Cloudy	0	0	0
29	800	Sunny	0	0	0
	1545	Sunny	1	0	0
30	900	Sunny	1	0	0
	1645	Sunny	0	0	0
31	1100	Cloudy	0	0	0
	1600	Cloudy	0	0	0
			April 2005		
1	930	Cloudy	0	0	0
	1500	Cloudy	0	1	0
2	800	Cloudy	0	0	0
	1700	Cloudy	0	0	0
3	700	Clear	0	0	0
	1600	Clear	0	2	0
4	1000	Clear	0	0	0
	1800	Clear	0	0	0
5	900	Sunny	0	0	0
	1600	Sunny	0	0	0
6	730	Sunny	1	0	0
	1530	Sunny	0	0	0
7	930	Sunny	0	0	0
	1730	Cloudy	0	0	0
8	1000	Cloudy	0	0	0
	1530	Partly Cloudy	2	0	0
9	900	Cloudy	0	1	0
	1745	Sunny	3	2	0
10	830	Sunny	0	0	0
	1700	Sunny	3	1	0
11	1145	Sunny	1	0	0
	1715	Sunny	3	0	0
12	810	Cloudy	0	0	0
	1400	Mostly Cloudy	0	0	0
13	800	Rain	0	0	0
	1430	Rain	1	0	0
14	845	Cloudy	0	0	0
	1410	Partly Cloudy	0	0	0
15	900	Sunny	0	0	0
	1745	Sunny	0	0	0
16	800	Sunny	0	0	0
	1730	Sunny	0	0	0
17	1000	Sunny	0	1	1
17	1800	Sunny	0	1	0
18	1000	Sunny	0	0	0
	1800	Sunny	1	1	0
19	1100	Sunny	0	0	0
17	2000	Clear	2	0	0
20	830	Sunny	0	0	0
	1830	Sunny	0	0	0
21	1030	Sunny	0	0	0
	1730	Sunny	<u>0</u>	1	0
22	805	Partly Cloudy	<u> </u>	0	0
	1405	Partly Cloudy	<u>1</u>	0	0
	1403	rainy Cidudy	1	U	U

				BL-	
Date	Time	Weather Conditions	BL- Downstream of Spillway	Downstream of Powerhouse Discharge	TIL- Downstream of Dam
23	930	Partly Cloudy	0	1	0
	2000	Partly Cloudy	0	0	0
24	830	Cloudy	0	0	0
	2100	Cloudy	0	0	0
25	800	Sunny	1	0	0
-	1800	Sunny	0	0	0
26	815	Rain	0	0	0
-	1415	Rain	1	0	0
27	855	Mostly Cloudy	0	0	0
	1410	Partly Cloudy	1	0	0
28	820	Sunny	0	0	0
	1425	Partly Cloudy	0	0	1
29	900	Partly Cloudy	0	0	0
	1800	Sunny	0	0	0
30	900	Partly Cloudy	1	0	0
	1600	Cloudy	1	0	0
			May 2005		
1	830	Cloudy	0	0	0
	1500	Sunny	6	0	0
2	1000	Sunny	2	1	0
	1800	Sunny	2	0	0
3	1030	Sunny	2	0	0
-	1420	Sunny	1	0	0
4	800	Sunny	2	0	0
	1700	Sunny	2	0	0
5	900	Cloudy	0	0	0
	1400	Cloudy	0	0	0
6	1000	Partly Cloudy	0	0	0
	1600	Cloudy	0	0	0
7	700	Clear	0	0	0
	1730	Clear	5	0	0
8	1100	Clear	0	0	0
	1815	Clear	0	0	0
9	800	Clear	1	0	0
	1600	Clear	0	0	0
10	830	Sunny	1	0	0
	1745	Rain	0	0	0
11	900	Sunny	0	0	0
	1800	Sunny	3	0	0
12	830	Sunny	1	0	0
	1745	Sunny	0	0	0
13	1000	Cloudy	0	0	1
	1345	Cloudy	0	0	1
14	715	Cloudy	0	0	2
1.5	1415	Cloudy	0	0	0
15	1000	Cloudy	1	0	2
1.0	1700	Cloudy	0	0	0
16	945	Cloudy	2	0	0
17	1720	Sunny	4	0	0
17	840	Partly Sunny	0	0	0
10	1550	Partly Cloudy	1	0	0
18	830	Mostly Cloudy	0	0	0

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
	1710	Partly Cloudy	4	0	0
19	810	Mostly Cloudy	0	0	0
	1710	Mostly Cloudy	1	0	0
20	800	Rain	0	0	0
	1630	Cloudy	2	0	0
21	730	Cloudy	2	1	0
	1430	Sunny	0	0	0
22	900	Sunny	1	0	0
	1730	Sunny	0	1	0
23	800	Overcast	0	0	0
	1700	Overcast	1	0	0
24	730	Sunny	0	0	0
	1810	Sunny	1	0	0
25	815	Cloudy	0	0	0
	1630	Cloudy	2	0	0
26	900	Sunny	0	0	0
	1730	Mostly Sunny	1	1	0
27	820	Partly Cloudy	0	0	0
	1640	Partly Cloudy	2	3	1
28	810	Partly Cloudy	2	0	0
	1735	Partly Cloudy	4	0	0
29	825	Mostly Sunny	1	0	0
	1705	Cloudy	2	0	0
30	805	Rain	2	0	0
	1730	Cloudy	1	0	0
31	730	Cloudy	0	0	0
	1700	Cloudy	0	0	0
			June 2005		
1	730	Rain	0	0	0
	1730	Rain	0	0	0
2	800	Rain	0	0	0
	1430	Cloudy	2	0	0
3	1030	Cloudy	0	0	0
	1800	Cloudy	0	0	0
4	815	Sunny	0	2	0
	1730	Sunny	2	1	0
5	930	Fog	1	0	0
	1700	Sunny	2	2	0
6	1030	Sunny	0	0	0
	1630	Sunny	0	0	0
7	800	Foggy	0	0	0
	1800	Cloudy	2	1	0
8	1030	Sunny	2	0	0
	1715	Sunny	1	0	0
9	1420	Sunny	1	1	1
	1815	Cloudy	4	0	0
10	900	Cloudy	3	1	0
	1730	Rain	3	0	0
11	1000	Clear	0	0	0
	1700	Cloudy	4	0	0
12	730	Cloudy	2	0	0
	1600	Cloudy	1	0	0

				BL-	
Date	Time	Weather Conditions	BL- Downstream of Spillway	Downstream of Powerhouse Discharge	TIL- Downstream of Dam
13	1100	Cloudy	0	0	0
	1700	Sunny	1	0	0
14	800	Sunny	0	0	0
	1630	Sunny	0	0	0
15	730	Sunny	1	0	0
	1800	Sunny	1	0	1
16	900	Sunny	0	0	0
	1800	Sunny	3	0	0
17	1100	Pt / Cldy	2	0	0
	1520	Sunny	0	0	0
18	1030	Sunny	1	0	1
	1530	Sunny	0	0	0
19	1200	Sunny	3	0	2
	1800	Cloudy	0	1	0
20	1000	Sunny	0	0	0
	1600	Sunny	1	0	0
21	810	Sunny	0	0	0
	1405	Partly Cloudy	2	0	0
22	805	Sunny	2	0	0
	1555	Partly Cloudy	1	0	0
23	810	Sunny	0	0	0
	1730	Partly Cloudy	1	0	0
24	1045	Sunny	1	0	0
	1630	Sunny	0	0	1
25	800	Sunny	0	0	0
	1730	Cloudy	0	0	0
26	930	Cloudy	1 2	0	0
27	1600	Cloudy	3	0	0
27	900	Cloudy	0	0	0
20	1730 730	Cloudy	3	0	1
28		Cloudy	0	0	0
20	1630	Rain	1		
29	1000 1745	Rain	0	0 0	0 0
30	845	Sunny	0	0	0
	1816	Sunny	0	0	0
	1810	Sunny		0	U
	720	CI	July 2005	0	-
1	730	Clear	<u>l</u>	0	0
	1600	Clear	1	0	0
2	805	Foggy	3	0	0
	1735	Sunny	0	0	0
3	805	Partly Cloudy	3	0	0
	1735	Cloudy	0	3	1
4	805	Mostly Cloudy	0	0	0
	1730	Light Rain	0	0	0
5	1000	Clear	0	0	0
	1730	Clear	2	0	0
6	930	Clear	2	0	0
	1730	Cloudy	0	0	0
7	1100	Partly Cloudy	2	0	0
	1500	Partly Cloudy	0	0	0
8	800	Sunny	0	0	0

Date	Time	Weather Conditions	BL- Downstream of Spillway	BL- Downstream of Powerhouse Discharge	TIL- Downstream of Dam
	1700	Sunny	2	0	0
9	915	Sunny	1	1	0
	1400	Sunny	0	1	0
10	800	Foggy	0	0	0
	1600	Partly Cloudy	1	0	1
11	1100	Cloudy	0	0	0
	1600	Cloudy	0	0	0
12	845	Cloudy	2	0	0
	1815	Sunny	0	0	0
13	630	Sunny	0	0	0
	1830	Sunny	0	0	0
14	730	Sunny	0	0	0
	1600	Sunny	1	0	0
15	700	Cloudy	1	0	1
	1700	Cloudy	0	0	0
16	930	Cloudy	3	0	1
	1630	Cloudy	0	0	0
17	1015	Partly Cloudy	0	0	0
_	1430	Cloudy	1	2	0
18	800	Cloudy	0	0	0
19	815	Sunny	1	0	0
	1955	Mostly Cloudy	0	2	0
20	930	Mostly Cloudy	0	0	0
	1745	Sunny	1	0	0
21	645	Cloudy	0	0	0
	1745	Cloudy	0	0	0
22	945	Partly Cloudy	0	0	0
	1530	Partly Cloudy	0	0	0
23	900	Cloudy	0	0	4
_	1800	Partly Cloudy	0	0	0
24	1000	Partly Cloudy	3	0	0
_	1700	Partly Cloudy	2	0	0
25	900	Sunny	0	0	0
_	2115	Fair	0	0	1
26	815	Sunny	0	0	0
_	1740	Mostly Sunny	0	0	0
27	830	Sunny	1	0	0
_	1755	Partly Cloudy	0	0	0
28	850	Partly Cloudy	1	0	0
	1735	Partly Cloudy	0	0	1
29	700	Cloudy	0	0	0
	1645	Cloudy	0	0	0
30	1000	Cloudy	0	1	0
	1330	Cloudy	1	1	0
31	830	Rain	0	0	0
	1745	Rain	0	0	0

APPENDIX E7-2 RECREATION NEEDS ASSESSMENT

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1.0 Methods and Analysis

The Recreation Needs Assessment provides a qualitative assessment, utilizing professional judgment of the Licensee of recreation needs. This assessment is based on the integration of findings two studies: Inventory and Assessment of Recreation Facilities and the Recreation Visitor and Resident Surveys. The assessment involved a four-step process in which relevant information on recreation trends were described; the Project area recreation opportunities were described, relevant Project area recreation issues and management plans were identified, and the potential actions to address Project-related issues were identified, and proposed. These steps are discussed below.

- Step 1. Summary of regional recreation trends and relevant recreation plans: The first step in the needs assessment was to provide an overview of national, regional, and where possible local recreation trends. This summary helps to contextualize recreation occurring within the Project area, as well as potential future trends in the region.
- Step 2. Summary of Project-related recreation opportunities at recreation resource areas: The second step in the needs assessment was to integrate recreation study findings into a summary of Project-related recreation opportunities at Lake Tillery and Blewett Falls Lake. The existing condition of the recreation opportunity as well as the likely condition of the opportunity over the license term is described. Parameters discussed include such items as activity participation rates, concerns, facility needs, regional significance, resource impacts, and existing and likely future capacity availability.
- Step 3. Evaluation of the major recreation issues for each recreation resource area: Based on the existing and projected license term and the conditions of recreation opportunities within each recreation resource area, the recreation issues within the recreation resource area were identified. This included items such as crowding, conflicts between user groups, likely facility needs over the license term, or various types of impacts resulting from recreation use.
- Step 4. Identification of a set of reasonable possible actions to address Project-related issues: A reasonable set of prioritized actions that address Project-related recreation issues will be developed. In some cases, several alternative actions are likely to be developed to address the same issue. The following criteria will be used to identify reasonable proposal actions and to prioritize these actions (Whittaker, Vaske, and Manfredo 2002):
 - **Effectiveness**: How effective is the proposal at addressing issues?
 - Appropriateness: How appropriate is the proposal for the given management setting (i.e. Recreation Opportunity Spectrum (ROS) class setting)?
 - Public Acceptability: How likely is it that recreation visitors will support the actions.
 - **Feasibility and Cost**: How feasible is it to implement the proposal given administrative policies, laws, land ownership, and costs?

2.0 Summary of Regional Recreation Trends and Relevant Recreation Plans

The following recreation plans and reports reflect trends occurring in the region, as well as needs defined by state and local groups, which may assist managers in determining the future recreation needs and subsequent strategies for meeting these needs. These plans provide a framework for assessing present recreation opportunities, their relationship to current recreation demand, as well as consideration for recreation trends in the future.

Outdoor Recreation in American Life: A National Assessment of Supply and Demand Trends (Cordell 1999)

One of the most comprehensive documents relative to market and trend analysis specific to outdoor recreation both nationally and regionally, is: Outdoor Recreation in American Life: A National Assessment of Supply and Demand Trends (Cordell 1999). Within the text, Cordell et al. (1999) report trends and forecast demand for outdoor recreational activities at both national and regional levels. For the purposes of this analysis, an overview of the southern U.S. was utilized was appropriately utilized for this Project area.

Nationally, trends and future projections point toward continued increases in the number of participants, trips, and activity days for outdoor recreation across nearly all types of recreation activities. Land-based activities, rather than activities that occur on water or snow and ice, constituted the largest single category of outdoor recreational participation.

The study distinguishes between activity days, primary-purpose trips, and overall participation rates. Nationally the five fastest growing outdoor recreation activities through the year 2050 measured in activity days are expected to be: visiting historic places (116 percent growth), downhill skiing (110 percent growth), snowmobiling (99 percent growth), sightseeing (98 percent growth), and non-consumptive wildlife activity (97 percent growth). Activities expected to grow the slowest with regards to activity days, included fishing (27 percent growth), primitive camping (24 percent growth), cross country skiing (18 percent growth), off-road vehicle driving (7 percent growth), and hunting (minus 2 percent growth) (Cordell 1999, p. 349).

With respect to annual **primary-purpose trips**, the five fastest growing outdoor recreation activities through the year 2050 are expected to be: downhill skiing (122 percent growth), biking (116 percent growth), snowmobiling (110 percent growth), sightseeing (98 percent growth), and developed camping (80 percent growth). The five slowest growth activity areas as measured by primary-purpose trips are expected to be: hunting (6 percent growth), primitive camping (0 percent growth), off-road vehicle driving (minus 22 percent growth), family gatherings (minus 25 percent growth), and picnicking (minus 45 percent growth).

Lastly, the report summarized the five fastest and slowest growing outdoor recreation activities through the year 2050 as measured by the **number of participants**. The five fastest growing relative to numbers of participants are expected to be: cross-country skiing (95 percent growth), downhill skiing (93 percent growth), visiting historic places (76 percent growth), sightseeing (71 percent growth), and biking (70 percent growth). Subsequently, the five slowest growing outdoor recreation activities measured by number of participants are expected to be: rafting (26 percent growth), backpacking (26 percent growth), off-road vehicle driving (16 percent growth), primitive camping (10 percent growth), and hunting (minus 11 percent growth) (Cordell 1999, p. 349).

Overall **days spent** and **numbers of participants** in winter, water-based, and developed land-based activities will, in general, grow faster than the population (Cordell 1999, p. 349). Along with other dispersed land-based activities, hunting and fishing (consumptive use activities), are not expected to increase in both activity days and participation numbers as fast as population growth, with the exception of non-consumptive wildlife activities (both developed and dispersed).

For the Southern Region analysis which included North Carolina and South Carolina, Progress Energy examined activities by participant levels. The projected change in various recreational activities for the South region is summarized below in Table 1.

Table 1 Baseline (1995) and projected participation (population 16 years and older) Southern Region-2000 to 2050.

Activities Occurring or Likely to occur		Estimated No. of Participants (Millions)					
at Lake Tillery/Blewett Falls Lake	1995 ¹	2000	2010	2020	2030	2040	2050
Canoeing	4.20	1.03	1.07	1.11	1.16	1.23	1.34
Motorboating	15.50	1.04	1.13	1.24	1.33	1.45	1.59
Non-pool swimming	23.30	1.05	1.15	1.27	1.37	1.50	1.64
Visiting Beach or waterside	37.70	1.07	1.20	1.30	1.48	1.62	1.76
Fishing	20.20	1.04	1.11	1.19	1.24	1.31	1.38
Hunting	6.50	0.93	0.82	0.74	0.68	0.65	0.64
Non-consumptive Wildlife Activity ²	34.20	1.07	1.22	1.38	1.54	1.71	1.86
Hiking	11.30	1.05	1.17	1.32	1.45	1.61	1.78
Primitive camping	8.00	0.98	0.98	1.01	0.98	0.99	1.02
Developed camping	10.70	1.06	1.22	1.34	1.58	1.77	1.97
Family gathering	37.00	1.07	1.20	1.34	1.48	1.62	1.76
Picnicking	27.40	1.06	1.21	1.38	1.52	1.67	1.80
Sightseeing	33.90	1.08	1.25	1.43	1.61	1.79	1.96
Walking	40.00	1.03	1.07	1.11	1.16	1.23	1.34

The 1995 baseline total for millions of participants.

North Carolina Outdoor Recreation Plan

The Licensee reviewed the North Carolina Outdoor Recreation Plan (NCORP 2003-2008) prepared by the Division of Parks and Recreation to acquire information about recreation demand within the state. According to the NCORP, the population of North Carolina will grow approximately 18 percent from 8.05 million in 2000 to over 9.47 million by 2010. The median age in 2000 was 35.3 years, and this is expected to rise in the next decade as baby-boomers hit age 65.

Results of the North Carolina Outdoor Recreation Participation Survey (NCORPS) indicated that the most popular outdoor recreation activities in North Carolina can generally be: 1) enjoyed at a relatively low cost; 2) require limited physical exertion; and 3) require little in the way of expensive equipment or special skills. The most popular activities were focused on viewing and learning, and therefore can be enjoyed by almost anyone. Table 2 identifies North Carolina's top 15 outdoor recreation activities.

Table 2 Popular outdoor recreational activities in North Carolina.

Rank	Activity	Percentage of Households Participating	
1	Walking for pleasure	75	
2	Driving for pleasure	72	
3	Viewing scenery	71	
4	Beach activities	69	
5	Visiting historical sites	62	
6	Swimming (in lakes, rivers, and oceans)	54	
7	Visiting natural areas	53	
8	Picnicking	52	
9	Attending sports events	52	

Non-consumptive wildlife activities included bird watching, photography, and other forms of wildlife viewing. Source: Cordell 1999.

Rank	Activity	Percentage of Households Participating	
10	Visiting zoos	51	
11	Fishing – freshwater	50	
12	Use of open areas	41	
13	Swimming (in pools)	40	
14	Fishing – saltwater	38	
15	Attending outdoor cultural events	35	

Source: NCORP 2003-2008.

According to the NCORP, recreation activities rated as having 'high' future demand were: walking for pleasure, freshwater fishing, beach activities, tent or vehicle camping, bicycling for pleasure, picnicking, swimming in pools, and attending outdoor cultural events. Activities rated as having 'high' support for public funding were: walking for pleasure, tent and vehicle camping, picnicking, visiting historical sites, freshwater fishing, visiting natural areas, beach activities, visiting zoos, using play equipment, and attending outdoor cultural events.

With respect to the relationship between age and activities, fitness activities; activities involving small children, and water-oriented activities were more frequently participated in by younger respondents (25 to 44 years old) and included bicycling, jogging or running, use of play equipment, and swimming in lakes, rivers, and oceans. Respondents 55 years old and above participated more frequently in physically passive activities, including walking for pleasure, tent or vehicle camping, nature study, power boating, and salt water fishing.

According to NCORP, the demand for outdoor recreation areas and facilities has increased with the increase in the proportion of citizens participating in outdoor recreation activities. In 1982/83, 89 percent of people age 16 and over participated in at least one activity. This increased to 97.6 percent in 1999/2000. It is anticipated that future growth in demand will come from population growth and increased frequency of participation, particularly from the over-60 population. The NCORP also identified five categories of major park and recreation issues that need to be addressed in North Carolina over the next five years. These issues are listed in Table 3.

Table 3 Pertinent categories of issues included in the NCORP.

	Category	Issues
1	Improved Outdoor Recreational Services - The need to provide improved outdoor recreational services to meet the needs of a growing and changing population.	 Need for adequate staffing for park areas Dwindling open space for recreational use Deteriorating park and recreation facilities Need to keep parks safe and clean Provide additional recreational programs and facilities Assess demographics and public demands Increasing liability insurance costs Depreciative behavior Greater public accessibility
2	Conservation of Natural Resources - The need to conserve and protect important natural resources and open spaces in a rapidly developing state.	 Expanded protection of important natural resources Deterioration of park resources due to overuse Resource degradation caused by increased development Outdoor recreation in appropriate settings More interpretation and education programs
3	Funding - The need to ensure a stable and adequate source of funding to provide for the outdoor recreation needs of current and future generations.	 Federal Land and Water Conservation Fund (LWCF) funding North Carolina has created several dedicated funds Natural Heritage Trust Fund (NHTF) Parks and Recreation Trust Fund (PRTF) Clean Water Management Trust Fund (CWMTF)

	Category	Issues
4	Partnerships - The need to create effective partnerships between all parties interested in outdoor recreation so they may pursue common interests more effectively.	 North Carolina's Outdoor Heritage
5	The State Parks System - The need to improve the North Carolina state parks system.	■ System-wide plan for the state parks system

Source: NCORP 2003-2008.

Comprehensive Wildlife Conservation Strategy

The North Carolina Wildlife Diversity Plan (2005) provides a broad overview of the needs and direction of conservation education and recreation for the North Carolina Wildlife Resources Commission (NCWRC). It identifies both conservation education priorities and recreation priorities as listed in Tables 4 and 5.

Table 4 North Carolina Wildlife Resources Conservation education priorities.

Wildlife Nature Centers	 Develop Commission-owned wildlife nature centers in each physiographic region and support projects at existing centers. Develop materials and traveling displays for use across the state at schools, universities, science museums and aquariums to increase awareness of wildlife concerns.
Wildlife Education Programs	 Improve the Commission's capabilities to provide instructor training in Project Wild and CATCH and coordinate support for other state environmental awareness programs. Develop and improve guides for construction/development of outdoor classrooms. Develop demonstration projects for wildlife education programs.
Wildlife Educational Materials	 Develop and distribute wildlife educational materials to the public school systems. Develop public informational materials on wildlife species, management programs, and habitat conservation.
Wildlife Education Grants	■ Encourage development of educational materials and programs on fish and wildlife through an annual Wildlife Education Grants program.

Source: Comprehensive Wildlife Conservation Strategy.

Table 5 North Carolina Wildlife Resources recreation priorities.

	<u> </u>		
Watchable Wildlife	Promote the North Carolina Watchable Wildlife Viewing Program through		
	development of highway map guides and informational materials for significant		
	public sites.		
	■ Develop guides, informational materials, and workshops on wildlife		
	photography.		
	Development and stations for fight and cuitality viscoing and above combined		
	 Develop structures and stations for fish and wildlife viewing and photography. 		
	Encourage commercial guided trips through development of training programs		
	and informational materials.		

Paddling	■ Develop and maintain canoe, kayak, and whitewater paddling access points.		
	 Develop and maintain marked canoe trails along major streams and rivers. 		
	 Encourage commercial guided trips through development of wildlife train 		
	programs and informational materials.		
Hiking	■ Support and assist with maintenance to the State Trails and Rails to Trails		
	systems.		
	Develop and maintain hiking trails on state-owned game lands.		
Camping	■ Develop and maintain hiking trails and viewing sites associated with state-		
	maintained camp grounds, picnicking areas, and visitor centers.		
	■ Develop wildlife-related displays and educational materials at state-owned		
	campgrounds, picnicking areas, and visitor centers.		
	Produce wildlife-related educational programs at state-owned campgrounds,		
	picnicking areas, and visitor centers.		
Birding	■ Develop and maintain Coastal, Piedmont, and Mountain Birding trails		
	development projects.		
	■ Assist with the organization, promotion, and operation of local Birding Festivals.		
	■ Develop Birding Guides to North Carolina species and Birding Lists for		
	significant public-owned properties.		
Diving	 Develop guides and materials for recreational diving. 		
Wildlife Recreation Grants	■ Encourage development of fish and wildlife-related recreation programs through		
	an annual Wildlife Recreation Grants program to promote nature tourism and		
	wildlife viewing.		

Source: Comprehensive Wildlife Conservation Strategy.

1998 North Carolina State Trail and Greenway Survey

In 1998, a study was conducted to provide information necessary for planning and developing trails and greenways across North Carolina. Results of the study identified that:

- over 50 percent of all adult North Carolinians used or wanted to use a trail or greenway in the past 12 months;
- walking for pleasure is the most popular trail and greenway activity based on numbers participating (and annual participation rates), followed by hiking, bicycling, off-road vehicles, canoeing/kayaking, and horseback riding;
- nearly 75 percent felt it was important to have trails available in North Carolina;
- a majority felt that trails are important in providing aesthetic beauty, health and fitness, public recreation opportunities, undeveloped open space, public education about nature and the environment, community pride, and tourism and business development;
- trails and greenway use is expected to grow, since over three-quarters of those interviewed are planning to use a trail or greenway in the next five years;
- willingness to invest in trails is strong North Carolinians, overall, reported that they are willing to pay for trail use (average, \$12 per year) because they value their trails and greenways highly;
- the estimated total direct expenditures made on trail-related trips in North Carolina were approximately \$91,883,000 annually and in-state residents reported that they spent approximately \$10 per day on their most recent trail trip;
- North Carolinians want more trails, and they would like the trails closer to their homes;
- there is a need for more adequate trail information from sources such as trail brochures, the internet, and parks and recreation offices; and
- there is a strong desire for better access to drinking water, restrooms and other trailside services.

Uwharrie National Forest - A Strategic View

Infrastructure changes are expected to impact Uwharrie users in the future — these changes may also impact users of other recreation facilities close to the Uwharrie National Forest. The infrastructure changes include (Uwharrie National Forest 2005):

- Highway 49 from Charlotte, North Carolina to Burlington, Virginia, which touches the edges of the proclamation boundary at Badin Lake on its way to Asheboro, has been identified by the state as a "North Carolina Strategic Corridor" in the next 10-year horizon. This means it is likely to be widened to four lanes of traffic.
- Interstate 73/74 which skims the eastern edge of the Uwharrie is expected to be extended south to connect to Interstate 95, making this extension a likely major travel route with possible associated secondary developments.
- Highway 52 that connects Salisbury to Albemarle and beyond is currently being four-laned. Although not within or touching the proclamation boundary, it may still serve to improve access to the forest.
- Widening of Highway 24/27 is in the initial planning stages.

Current recreation facilities and trails at Uwharrie National Forest:

- 50 miles of hiking trails;
- Badin Lake Horse trails 40 miles;
- Cane Brake Horse Camp 29 camp sites;
- Mountain Bike Trails 16.6 miles in the Woodrun part of the district;
- 1 OHV Trail System 16 miles;
- 2 developed picnic areas;
- Arrowhead Campground;
- Badin Lake Campground;
- Badin Lake Horsecamp camping;
- East Morris Mountain camping;
- Uwharrie Hunt Camp camping;
- West Morris Mountain camping; and
- Yates Place camping.

Table 6 Popular activities within the Uwharrie National Forest market area.

Activity	Percent Participation	
Walk for pleasure	83.8	
Family gathering	74.2	
View/photograph natural scenery	54.1	
Visit nature centers, nature, museums, etc.	53.4	
Sightseeing	52.7	
Driving for pleasure	51.3	
Picnicking	47.5	
Visit historic site	44.5	
Bicycling	31.8	
Boating	30.7	
Motorboating	22.6	

Source: Uwharrie Conditions and Trends 2005.

Table 7 Uwharrie participation rate of growth in selected activities.

Activity	Percent change in number of participants 1995-2001
View or photograph fish	+79.8
Drive off-road	+76.2
View wildlife	+49.6
Warm water fishing	+43.4
View birds	+28.8
Swimming in streams, lakes, ponds, or the ocean	+16.9
Horseback riding	+16.7
Horseback riding on trails	+12.1
Day hiking	+10.2
Primitive camping	+3.0
Developed camping	-1.2
Small game hunting	-10.1
Big game hunting	-11.1
Backpacking	-25.3

Source: Uwharrie Conditions and Trends 2005.

North Carolina Central Park: Assessing Tourism and Outdoor Recreation in the Uwharrie Lakes Region (September 1999).

This report contains the results of an inventory of seven counties (Davidson, Rowan, Randolph, Stanly, Troy, Anson, and Richmond). The inventory includes a description of the region, natural resources, cultural resources, outdoor recreation resources, destination attractions, and infrastructure (pg. 3).

Results indicated that urban consumers were most likely to do weekend trips or mini vacations — with strong consumer support outdoor recreation and the "central park concept", yielding a large urban market less than a two-hour drive from the region. The report also indicated that 'baby boomers' will be the most significant target market for the central park concept, with travel and active lifestyle remaining important. Findings also suggest a significant interest in second homes or retirement homes in the region, due the clean environment, culture, and affordability. Report findings indicate a strong consumer interest in nature-based tourism, outdoor recreation, agritourism, and festivals. The report also offers suggestions to enhance the region and meet consumer demand, these include: provide more resources to fund and improve existing attractions, parks and open spaces; expansion of hospitality services including lodging, food service outlets, and shopping (including the sale of recreational equipment); market driving and sightseeing tours of scenic natural areas; and, expand festival and concert events in the region (pg. 24).

Summary of Population Trends

Justification for Selected Counties

Recreation research has shown that demographic factors such as age, race or ethnicity, gender, income, education, and previous experience influence recreation behavior (Bowker et al. 1999). While all these factors play a role in estimating recreation participation, Bowker et al. (1999) state that the greatest changes taking place in the next 50 years are increases in population and real income. To assist in the understanding of visitors to Lake Tillery and Blewett Falls Lake, state trends are reported by the North Carolina Department of Finance below, which have also been reported on national and regional levels specifically relative to recreation.

The State of North Carolina Department of Finance reports demographic information at state and county levels. Based on the visitor surveys performed by Progress Energy in 2004 to 2005, the majority of people who visit the Project area were residents of North Carolina. Additionally, the survey results indicated that the majority of visitors surveyed at Lake Tillery reside in Stanly (28 percent) or Montgomery (15 percent) Counties (Tables 8 and 9). For Blewett Falls Lake, the majority of visitors surveyed reside in Richmond (51 percent) or Anson Counties (18 percent). Therefore, projected population growth for the entire state as well as these counties is relevant to the discussion of projected recreation demand in the region.

Table 8 Summary of Lake Tillery visitor's primary residence 2004 to 2005.

Location of Origin	Count	Percent %
Stanly County	343	28.4
Montgomery County	179	14.8
Cabarrus County	87	7.2
Mecklenburg County	82	6.8
Union County	66	5.5
Other NC County	372	30.8
Out of State	30	2.5
Did not address	50	4.1
Total	1,209	100.0

Table 9 Summary of Blewett Falls Lake visitor's primary residence 2004 to 2005.

Location of Origin	Count	Percent %	
Richmond County	361	50.8	
Anson County	125	17.6	
Scotland County	45	6.3	
Union County	31	4.4	
Montgomery County	21	3.0	
Other NC County	67	9.4	
Out of State	17	2.4	
Did not Address	44	6.2	
Total	711	100.0	

Population Projections for Primary Resident Counties

Between April 2000 and April 2030, North Carolina's population is expected to grow by 4 million people (50 percent), reaching 12.1 million by the end of the 30-year period. Over 61 percent of this growth, 2.5 million people, will be the result of net migration into the state¹. Based on the counties most often reflected by Lake Tillery and Blewett Falls Lake visitors, county growth projections for 2000 to 2010 and 2010 to 2020 are included (Tables 8 and 9). For Lake Tillery visitors, Stanly (28 percent), Montgomery (15 percent), Cabarrus (7 percent), Mecklenburg (7 percent), and Union (5 percent) were the top five counties respondents identified as their primary county of residence. For Blewett Falls Lake, the top five counties respondents identified as their primary residence included Richmond (51 percent), Anson (18 percent), Scotland (6 percent), Union (4 percent), and Montgomery (3 percent). Projected growth rates for these counties are provided in Table 10.

North Carolina State Demographics (retrieved September 5, 2005, http://demog.state.nc.us/).

Table 10 Projected growth rates for counties of residence by visitors to Lake Tillery.

Lake Tillery Visitor's Top Five Counties of Residence	2000-2010	2010-2020
Stanly (28% of visitors)	6.2%	7.7%
Montgomery (15% of visitors)	5.9%	8.2%
Cabarrus (7% of visitors)	28.7%	24%
Mecklenburg (7% of visitors)	27%	23%
Union (5% of visitors)	49%	32%
Blewett Falls Lake Visitors Top Five Counties of Residence	2000-2010	2010-2020
Richmond (51% of visitors)	.2%	.6%
Anson (18% of visitors)	4.8%	4.4%
Scotland (6% of visitors)	5.2%	3.4%
Union (4% of visitors)	49.1%	32%
Montgomery (3% of visitors)	5.9%	8.2%
Transgamery (870 or visitors)		

Source: North Carolina State Demographics.

3.0 Summary of Project-Related Recreation Opportunities

Lake Tillery

Visitors to Lake Tillery are primarily repeat visitors and day trippers. The majority of respondents visiting Lake Tillery have visited the lake previously. Most respondents visited more than six times per year, with just over one-third visiting one to five times per year. Respondents (n=1201) were generally repeat visitors to each access location. Norwood Access respondents reported a high frequency of visitation, with a majority visiting over 11 times per year; the majority of Stony Mountain Access visitors reported over six times per year, similar to Swift Island Access, Lilly's Bridge, Tillery Access, Tillery Canoe Portage, and the Informal Access Area visitation; Morrow Mountain State Park was different from all the other locations, with the majority of respondents reporting visitation between one to five visits. Stony Mountain Access, Swift Island Access, Lilly's Bridge Access, Tillery Canoe Portage, and the Informal Access Area visitors follow a similar consistent pattern of 15 to 20 percent of visitors reporting across the one to five to 21 to 50 visitation ranges.

In 2004 to 2205, slightly over half of the respondents identified spending between one and four hours at Lake Tillery (54 percent). Thirty-seven percent identified spending four to eight hours, and 9 percent identified spending more than eight hours at the Lake. Fourteen percent of respondents spent one or more nights at Lake Tillery. Of those people spending at least one night, 38 percent of the respondents spent one night, 34 percent spent two nights, and 15 percent spent three nights.

In summary, visitors to Lake Tillery generally utilize day-use facilities and are repeat visitors. Of those surveyed, only 14 percent spent at least one or more nights at Lake Tillery, with a majority of those spending one to three nights maximum.

■ Recreation Activities at Lake Tillery

Visitors to Lake Tillery enjoy a range of activities from boat fishing to camping, wildlife viewing to hiking, and other water related opportunities. Of those surveyed by Progress Energy during 2004 to 2005, 37 percent of respondents identified boat fishing as their primary recreational activity or reason for visiting Lake Tillery. Bank fishing was second (30 percent), followed by motor boating (15 percent). Boat fishing was reported most frequently by respondents at Swift Island and Lilly's Bridge Access Areas. For bank fishing, respondents from the Informal Access area reported the

highest number, while Swift Island Access was the most frequently mentioned area for motor boating. The next most frequently mentioned primary activity was camping (6 percent), followed closely by hiking (5 percent), jet skiing (4 percent), picnicking (4 percent), and swimming (4 percent). Hunting, sightseeing, river canoeing and sunbathing were identified as being the least common primary recreation activities or reasons for visiting Lake Tillery, each being identified by less than 1 percent of the respondents.

■ Participation Rates

Respondents were consistent with previously reported primary activities and activities participated in over last 12 months, with boat fishing (34 percent) as the most frequently identified, followed by bank fishing (31 percent), and motor boating (13 percent). Swift Island and Norwood Access Areas, has the highest number of respondents reporting boat fishing activity, and the largest number of respondents reporting bank fishing were from the Informal Access area. The majority of Respondents reporting motor boating and swimming came from Swift Island Access. Hunting was the least identified recreation activity, with only 0.1 percent of respondents identifying participating in hunting on the day they were interviewed.

Other activities that were identified by respondents as being participated in or were going to be participated in at Lake Tillery were:

- Bass tournament
- Bike riding
- Attending Church
- Dog swimming/training/walking
- Duck hunting
- Enjoying peace and quiet/relaxing
- Kayaking
- Sightseeing, enjoying scenery
- Motorcycling
- Pick up rocks for geology lesson
- Tubing
- Water fireworks

■ Night Time Activities

Night time activities were popular with approximately half (49 percent) of all respondents (n=1081) at Lake Tillery, and at all access points to the Lake. Night time activities were reported by 50 percent or higher of respondents at Norwood, Stony Mountain, Swift Island, and Tillery Access Areas. Respondents reported 42 to 47 percent participation in night time activities at Lilly's Bridge, Tillery Canoe Portage, and the Informal Access Areas. Additionally, the types of activities engaged in during the night time by respondents included boat fishing, bank fishing and camping. Boat fishing was mentioned by the majority of respondents from Norwood (78 percent), Stony Mountain (34 percent), Swift Island (56 percent), and Lilly's Bridge (50 percent); bank fishing was mentioned by the majority of respondents at Tillery Access (84 percent), Tillery Canoe Portage (68 percent), and the Informal Access Area (58 percent). Camping was the second most popular night time activity for respondents located at Tillery Access and the Tillery Canoe Portage, and third for respondents located at the Stony Mountain Access Area.

Blewett Falls Lake

■ Recreation Activities at Blewett Falls Lake

Similar to Lake Tillery, of those surveyed by Progress Energy, bank fishing (41 percent), followed closely by boat fishing (40 percent) and motor boating (11 percent), were the primary activities identified most frequently by visitors to Blewett Falls Lake. Specifically, bank fishing was reported most frequently by respondents at the Blewett Tailwater Access Area and Informal Tailrace Access Site. For boat fishing, respondents from Pee Dee and Grassy Islands Access Areas reported the highest frequency, while Pee Dee Access Area was the most frequently mentioned area for motor boating. The next most frequently mentioned primary activity was swimming (8 percent), followed closely by camping (7 percent), picnicking (5 percent), and wildlife viewing, and jet skiing and sunbathing (4 percent).

Hunting and water skiing were identified by 3 percent of respondents, and hiking by 1 percent of respondents, river canoeing and lake canoeing were identified as the least common primary recreation activities or reasons for visiting Blewett Falls Lake, identified by less than 1 percent of the respondents.

When asked about activities participated in during the past 12 months, again, boat fishing, bank fishing, and motor boating were the most common recreational activities identified by respondents. Other activities that were identified by respondents as being participated in or were going to be participated in at Blewett Falls Lake were:

- Fun
- Motorcycling
- Relaxing
- Riding around
- Visiting family

■ Night Time Activities

More than half (59 percent) of all respondents (n=615) at Blewett Falls Lake participated in night time activities. Night time activities are popular at all access areas surveyed, with 50 percent or higher of respondents reporting participating in night time activities at all access areas at Blewett Falls Lake. Informal SR 1744 and Grassy Islands Access Areas reported the greatest number of respondents participating in night time activities, with 73 percent and 69 percent of all respondents respectively. As with Lake Tillery, the types of activities most popular by respondents at night at Blewett Falls Lake were boat fishing (54 percent), bank fishing (50 percent) and camping (35 percent).

4.0 Summary of Recreation Issues for Lake Tillery

Overall, the majority of respondents on Lake Tillery (67 percent) did not experience conditions that interfered with their recreation experience. However, for those that did say they experienced conditions that interfered with their recreation experience (33 percent), each individual access was

assessed and the results expressed evaluate each access area by level of concern by respondents for crowded conditions, limited access, trash and litter, and lake water levels.

To understand facility capacity at each access area, spot counts were utilized to calculate the maximum number of vehicles per weekend day, week day, and holiday for each access area by month. The results of these spot counts indicate that public access areas in general reach their maximum capacity during very specific times of year. Generally, estimates were calculated based on dimensions of an access parking area and that a vehicle with a boat trailer took up two to three times more space than an individual vehicle. Therefore, the capacity for vehicles with boat trailers was less than the capacity for individual vehicles. The number of vehicles and vehicles with boat trailers at each facility was counted on random days, three times per day over the course of 12 months. These values were averaged and used to calculate the percent of capacity reached at each facility. In order to obtain an estimate measurement of facility capacity reached, the number of vehicles with boat trailers was multiplied by the ratio of vehicles to vehicles with boat trailers actually calculated for the area under study. For example, if vehicle capacity at a facility is 100, and vehicle with boat trailer capacity is 50, the ratio between the two vehicles capacities is 2:1. Continuing with the example, if there were five individual vehicles at the facility and 10 vehicles with boat trailers, the number of vehicles with boat trailers (10) was multiplied by two and this value was added to the number of individual vehicles (5) to get a total use value of 25. Therefore, capacity reached at the facility was 25 percent (if vehicle capacity = 100), as opposed to 15 percent if the ratio between the facility capacities for the two vehicles was not taken into consideration.

The estimated facility capacity was reached or exceeded at some access areas during the spring and summer seasons. For Lake Tillery, Norwood Access Area reached over 100 percent capacity during one weekend day in April; two weekend days in June; and on the July 4 holiday. Stony Mountain Access Area reached over 100 percent capacity during one April fishing weekend day; the Informal Access Area reached over 100 percent capacity during one October weekday (Table 136).

For Blewett Falls Lake, facility capacity levels on an annual basis were rarely reached or exceeded. Generally, the majority of the access areas experienced increased visitation during April fishing weekends, Memorial Day weekend in May, July weekdays and the 4th of July holiday. Specifically, Grassy Islands Access Area exceeded capacity during two April fishing weekend days, the Memorial Day weekend day (31st), and one July weekday. The Blewett Falls Canoe Portage Access also exceeded facility capacity during one weekday in April and on Memorial Day. The Informal SR 1744 Access Area exceeded facility capacity during one April weekday and approached capacity during one weekend day in May; and facilities approached reaching capacity during the April and June weekends, and throughout July. The Pee Dee Access Area exceeded capacity on two April fishing weekends; during two weekend days in May; one weekend day in June; one weekend day in August; and twice in July, the 4th holiday, and one weekend day. With these exceptions, access areas at Blewett Falls Lake rarely neared their current facility capacity levels (Table 137).

Norwood Access

The access at Norwood is a gravel parking lot with 100 spaces for vehicle parking and 75 spaces for vehicle with boat trailer parking. The boat ramp is two lanes with a wooden dock that can accommodate up to three boats at a time. The shoreline around the cove provides access to bank fishing and is in fair condition. All other facilities were identified as in good condition.

■ Conditions Interfering with Experience

Of those that responded to whether or not they experienced conditions that interfered with their recreation experience (n=109), a majority of respondents surveyed (64 percent; n=70) did not experience conditions that interfered with their recreation experience. With respect to crowded conditions, 26 respondents expressed some level of concern, with a majority (54 percent; n=14) expressing a low level of concern overall. Limited access, again of the small percentage that did respond, 70 percent had a low level of concern for limited access. Regarding trash and litter, of those responding, a majority (78 percent; n=28) did have medium to high concern with improper disposal of litter or trash. Thirty-six respondents addressed their level of concern for water levels at Lake Tillery. Of those, 25 percent (n=9) had a low level of concern, 36 percent (n=13) had a medium level of concern, and 39 percent (n=14) had a high level of concern.

■ Adequacy of Facilities

In response to facilities identified as 'not adequate', respondents expressed the need for toilets at the ramp area, handicap access for parking and pier access, upgraded dock (worn and nails sticking up), lessen the gradient on the boat ramp, and a fishing pier. Trash was also identified as a significant problem. With respect to safety concerns, respondents suggested more buoys and signage to warn of the no-wake zone, and distance from the shoreline, which affects bank fishing (Table 24).

■ Activities or Services Currently Not Available

Respondents at this access commented primarily on the need for additional services and some facility improvements, including toilets at the access, lights in the parking lot, dock repairs, an additional dock, benches and picnic tables, vending machines when marinas are closed, and a public camping area (Table 24).

■ Facility Capacity

The Norwood access exceeded facility capacity levels with respect to vehicle and vehicle with boat trailer parking on three occasions, these being fishing weekend in April (143 percent), weekend in June (113 percent), and 4th of July holiday (130 percent). Table 11 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, Norwood reaches above 50 percent capacity during July weekend (63 percent) and August weekend (59 percent), and almost 50 percent capacity Labor Day holiday in September. The rest of the year, facility capacity at Norwood is below 50 percent.

Table 11 Norwood facility capacity estimates.

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	90	50	3	3	9.3
	WE	90	50	7	6	19.8
Feb 05	WD	90	50	3	3	9.3
	WE	90	50	8	7	22.9
Mar 05	WD	90	50	7	6	19.8
	WE	90	50	12	11	35.3

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Apr 04	WD	90	50	11	10	32.2
	WE	90	50	48	45	143.3 ¹
May 04	WD	90	50	10	9	29.1
	WE	90	50	14	13	41.6
	Hol	90	50	17	15	48.9
Jun 04	WD	90	50	11	8	28.2
	WE	90	50	39	35	113.3^{2}
Jul 04	WD	90	50	11	11	34.2
	WE	90	50	24	18	62.7
	Hol	90	50	52	36	129.8^{3}
Aug 04	WD	90	50	8	6	20.9
	WE	90	50	21	18	59.3
Sep 04	WD	90	50	7	6	19.8
	WE	90	50	13	11	36.4
	Hol	90	50	14	14	43.6
Oct 04	WD	90	50	9	9	28.0
	WE	90	50	14	13	41.6
Nov 04	WD	90	50	6	6	18.7
	WE	90	50	11	10	32.2
Dec 04	WD	90	50	5	4	13.6
	WE	90	50	4	4	12.4

Facility capacity was exceeded on April 24.

Stony Mountain Access

The Stony Mountain Access has a two-lane paved boat ramp facility in good condition, with a wooden dock that can accommodate up to three boats. Bank fishing access is in fair condition, with excessive litter sighted as a primary problem. There are primitive campground facilities which accommodate 5 to 10 sites and are in poor condition with excessive litter. The multi-use trail is also reported to be in good condition with the exception of excessive littering.

■ Conditions Interfering with Experience

In general, of the 75 respondents surveyed at Stony Mtn. access, a majority (59) said that there were conditions that interfered with their recreation experience. The level of concern for crowding at Stony Mtn. access was low overall. Of the 26 respondents expressing a concern for level of crowding, a majority (73; n=19) expressed a low level of concern, with some (19; n=5) expressing a medium level of concern, and even less expressing a high level of concern (8; n=2). Limited access, again of the small percentage that did respond (n=26), 81 had a low level of concern for limited access. Regarding trash and litter, of those responding, a majority had medium to high concern with improper disposal of litter or trash (76). Twenty-eight respondents expressed some level of concern for water levels, of which 50 (n=14) were low; 21 (n=6) were medium; and 29 (n=8) were high.

Facility capacity was exceeded on June 05 and June 19.

Facility capacity was exceeded on July 04 Holiday.

■ Adequacy of Facilities

Respondents to this access area suggested a need for a toilet facility, campground and information on where camping was and was not allowed, a fishing pier and trash cans to improve facilities at this access point (Table 24).

■ Activities or Services Currently Not Available

Respondents suggested a need for waste receptacles, shoreline maintenance, docks for bank anglers, a place to eat, increased law enforcement and security for both water-based activities such as jet skis getting too close to shore, going into restricted areas, and land-based enforcement to reduce vandalism and theft, and restaurant and rental area at Cook's marina (Table 24).

■ Facility Capacity

Stony Mountain access exceeded facility capacity levels with respect to vehicle and vehicle with boat trailer parking during April fishing weekend (110 percent). Table 12 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, Stony Mountain reaches greater than 50 percent capacity on July weekend (84 percent), with the rest of the year reaching less than 50 percent of facility capacity.

Table 12 Stony Mountain facility capacity estimates.

Tuble 12	stony wountain facinity capacity estimates.								
Month	Type of Dav	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached			
Jan 05	WD	150	60	5	4	10.0			
	WE	150	60	3	2	5.3			
Feb 05	WD	150	60	0	0	0.0			
	WE	150	60	4	3	7.7			
Mar 05	WD	150	60	1	1	2.3			
	WE	150	60	8	6	15.3			
Apr 04	WD	150	60	8	3	10.3			
_	WE	150	60	52	45	109.7^{1}			
May 04	WD	150	60	5	3	8.3			
-	WE	150	60	5	4	10.0			
	Hol	150	60	10	7	18.3			
Jun 04	WD	150	60	7	5	13.0			
	WE	150	60	17	13	33.0			
Jul 04	WD	150	60	7	3	9.7			
	WE	150	60	38	35	83.7			
	Hol	150	60	26	14	40.7			
Aug 04	WD	150	60	3	3	7.0			
	WE	150	60	13	11	27.0			
Sep 04	WD	150	60	2	2	4.7			
	WE	150	60	6	5	12.3			
	Hol	150	60	7	4	11.3			
Oct 04	WD	150	60	3	2	5.3			
	WE	150	60	6	3	9.0			
Nov 04	WD	150	60	2	2	4.7			
	WE	150	60	2	2	4.7			
Dec 04	WD	150	60	1	1	2.3			
	WE	150	60	1	1	2.3			

Facility capacity was approached on April 24 and exceeded on April 25.

Swift Island

The Swift Island Access has a four-lane paved boat ramp, wooden dock which can accommodate up to 8 to 10 boats, limited shoreline fishing, and gravel parking facilities. The parking and access facilities at Swift Island are generally in good condition.

■ Conditions Interfering with Experience

Of the 249 respondents answering whether the level of concern for conditions that interfered with their recreation experience at Swift Island access, the majority (65 percent; n=161) said 'no'. Of the 54 respondents expressing a concern for level of crowding, the majority were low and medium levels of concern (43 percent; n=23 for both), with some (15 percent; n=8) expressing a high level of concern. With respect to concern for limited access, again of the small percentage that did respond (n=47), 66 percent had a low level of concern, and 28 percent had a medium level of concern. Regarding trash and litter, of those responding, a majority had medium to high concern with improper disposal of litter or trash (63 percent; n=43). Sixty-four respondents expressed some level of concern for water levels, of which 33 percent (n=21) were low; 33 percent (n=21) were medium; and 34 percent (n=22) were high.

■ Adequacy of Facilities

Respondents to this access area suggested a need for a toilet facility, campground has too much trash, marked and identifiable parking area, signage on highway, improved access, public phone, beach area for families, a fishing pier, lighting increased at the parking area, and trash cans to improve facilities at this access point (Table 24).

■ Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included the provision of a toilet facility, trash receptacles, additional camp sites and potable water, managed parking (identifiable spaces), access for watchable wildlife, public food place/restaurants, increased law enforcement for land and water-based activities (including restrictions on jet skis), and swimming area or beaches (Table 24).

■ Facility Capacity

With respect to capacity, Swift Island does not exceed facility capacity levels with respect to vehicle and vehicle with boat trailer parking. Table 13 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, Swift Island reaches the greatest capacity (65 percent) once a year on an April fishing weekend. The rest of the year is less than 50 percent of parking facility capacity.

Table 13 Swift Island facility capacity estimates.

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	600	240	2	2	1.2
	WE	600	240	6	5	3.1
Feb 05	WD	600	240	4	4	2.3
	WE	600	240	7	7	4.1
Mar 05	WD	600	240	6	6	3.5
	WE	600	240	31	26	16.0
Apr 04	WD	600	240	11	10	6.0
_	WE	600	240	122	107	64.9
May 04	WD	600	240	45	39	23.8
-	WE	600	240	58	50	30.5
	Hol	600	240	33	26	16.3
Jun 04	WD	600	240	20	16	10.0
	WE	600	240	62	56	33.7
Jul 04	WD	600	240	27	24	14.5
	WE	600	240	68	63	37.6
	Hol	600	240	100	65	43.8
Aug 04	WD	600	240	8	7	4.3
	WE	600	240	63	46	29.7
Sep 04	WD	600	240	5	5	2.9
_	WE	600	240	30	24	15.0
	Hol	600	240	16	16	9.3
Oct 04	WD	600	240	17	13	8.3
	WE	600	240	43	41	24.3
Nov 04	WD	600	240	7	6	3.7
	WE	600	240	17	15	9.1
Dec 04	WD	600	240	8	8	4.7
	WE	600	240	11	10	6.0

Lilly's Bridge Access

The Lilly's Bridge Access has a two-lane paved boat ramp, wooden dock which can accommodate up to six boats, limited shoreline fishing, an old bridge and pier, and gravel parking facilities. The parking and access facilities at Lilly's Bridge have all been rated as generally in good condition.

■ Conditions Interfering with Experience

Of the 197 respondents answering whether the level of concern for conditions that interfered with their recreation experience at Lilly's Bridge access, the majority (72 percent; n=141) said 'no'. Of the 36 respondents expressing a concern for level of crowding, the majority were low (58 percent, n=21) and medium (28 percent, n=10) levels of concern, with a minority (14 percent; n=5) expressing a high level of concern. With respect to concern for limited access, again of the small percentage that did respond (n=27), 89 percent had a low level of concern, and 7 percent (n=2) had a medium level of concern, and one respondent expressed a high level of concern. Regarding trash and litter, of those responding (n=35), 34 percent had a low level of concern, with 26 percent responding with medium level of concern, and 40 percent responding with high concern for the improper disposal of litter or trash. Thirty-three respondents expressed some level of concern for water levels, of which 58 percent (n=19) were low; 27 percent (n=9) were medium; and 15 percent (n=5) were high.

■ Adequacy of Facilities

Respondents to this access area suggested a need for a toilet facility, improved access to the fishing pier (currently dusty, etc. due to highway construction), signage to identify shoreline fishing, signage is for the fishing pier is hidden by construction; trash cans to improve facilities at this access point (Table 24).

■ Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included improving the trash problem, perhaps providing additional trash receptacles; the provision of a toilet facility, additional camp sites and potable water, managed parking (identifiable spaces), better lighting around docks, parking, by posted rules, navigational buoys on Norwood side of the lake, playground for children at beach access, public food place/restaurants, increased law enforcement for land and water-based activities (including restrictions on jet skis), and swimming area or beaches (Table 24).

■ Facility Capacity

With respect to parking capacity, Lilly's Bridge access rarely approached facility capacity levels with respect to vehicle and vehicle with boat trailer parking. Table 14 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, Lilly's Bridge access reaches the greatest capacity (83 percent) once a year on July 4 weekends. During April weekends, it is estimated that Lilly's Bridge reaches approximately 52 percent of capacity, with the rest of the year reaching less than 50 percent of parking facility capacity.

Table 14 Lilly's Bridge facility capacity estimates.

I abic 14	Biny's Bridge facility capacity estimates.							
Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached		
Jan 05	WD	200	80	6	6	10.5		
	WE	200	80	3	2	4.0		
Feb 05	WD	200	80	7	6	11.0		
	WE	200	80	6	5	9.3		
Mar 05	WD	200	80	5	3	6.3		
	WE	200	80	13	11	20.3		
Apr 04	WD	200	80	6	6	10.5		
•	WE	200	80	31	29	51.8		
May 04	WD	200	80	10	8	15.0		
•	WE	200	80	18	16	29.0		
	Hol	200	80	10	9	16.3		
Jun 04	WD	200	80	9	5	10.8		
	WE	200	80	30	24	45.0		
Jul 04	WD	200	80	8	6	11.5		
	WE	200	80	17	15	27.3		
	Hol	200	80	51	46	83.0		
Aug 04	WD	200	80	5	4	7.5		
_	WE	200	80	12	8	16.0		
Sep 04	WD	200	80	5	4	7.5		
-	WE	200	80	8	7	12.8		
	Hol	200	80	9	7	13.3		

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Oct 04	WD	200	80	5	5	8.8
	WE	200	80	11	8	15.5
Nov 04	WD	200	80	6	4	8.0
	WE	200	80	8	8	14.0
Dec 04	WD	200	80	4	4	7.0
	WE	200	80	5	4	7.5

Tillery Access-SR 1740/1745

The Tillery Access has a one-lane primitive boat ramp rated in poor condition; shoreline access along a road, rated in fair condition with excessive litter; a small beach at low water, also rated as fair; two-lane access in good condition; and small gravel vehicle parking areas rated as fair with excessive litter.

■ Conditions Interfering with Experience

Of the 31 respondents answering whether the level of concern for conditions that interfered with their recreation experience at Lilly's Bridge access, 61 percent (n=19) said 'no'. Of the 12 respondents expressing a concern for level of crowding, 100 percent (n=12) had a low level of concern. With respect to concern for limited access, again of the small percentage that did respond (n=14), 57 percent had a low level of concern, and 36 percent (n=5) had a medium level of concern, and 1 respondent expressed a high level of concern. Regarding trash and litter, of those responding (n=5), 36 percent had a low level of concern, with 21 percent (n=3) responding with medium level of concern, and 43 percent (n=6) responding with high concern for the improper disposal of litter or trash. Fifteen respondents expressed some level of concern for water levels, of which 73 percent (n=11) were low; 13 percent (n=2) expressed medium and high levels of concern.

Adequacy of Facilities

Respondents to this access area suggested a need for a toilet facility, better signage to identify access, additional fishing piers and docks, and trash cans to improve facilities at this access point (Table 24).

Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included improving the trash problem, perhaps providing additional trash receptacles; the provision of a toilet facility; picnic tables, clean area for swimming; more pier access; trail markers that correspond with a map; and better access to the road and ramp (Table 24).

■ Facility Capacity

Tillery Access-SR 1740/1745 did not approach facility capacity levels with respect to vehicle and vehicle with boat trailer parking. Table 15 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, Tillery Access reached the greatest capacity (53 percent) during April weekends. June weekends were estimated at 37 percent capacity, October weekends

were estimated at 33 percent capacity, while during Memorial Day holiday, facility capacity reached 30 percent. The rest of the year reached less than 30 percent of parking facility capacity.

Table 15 Tillery Access-SR 1740/1745 facility capacity estimate.

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	30	10	1	1	13.3%
	WE	30	10	0	0	0.0
Feb 05	WD	30	10	1	0	3.3
	WE	30	10	1	0	3.3
Mar 05	WD	30	10	1	0	3.3
	WE	30	10	2	0	6.7
Apr 04	WD	30	10	4	0	13.3
	WE	30	10	10	2	53.3
May 04	WD	30	10	2	0	6.7
	WE	30	10	2	0	6.7
	Hol	30	10	6	1	30.0
Jun 04	WD	30	10	2	1	16.7
	WE	30	10	5	2	36.7
Jul 04	WD	30	10	1	0	3.3
	WE	30	10	1	0	3.3
	Hol	30	10	3	1	20.0
Aug 04	WD	30	10	1	0	3.3
	WE	30	10	2	1	16.7
Sep 04	WD	30	10	1	0	3.3
	WE	30	10	1	0	3.3
	Hol	30	10	2	0	6.7
Oct 04	WD	30	10	1	0	3.3
	WE	30	10	7	1	33.3
Nov 04	WD	30	10	2	0	6.7
	WE	30	10	2	0	6.7
Dec 04	WD	30	10	0	0	0.0
	WE	30	10	0	0	0.0

Tillery Canoe Portage Access

The Tillery Canoe Portage has a two-lane gravel road access in fair condition. There are clearings along shore that can accommodate 25 to 30 people, with some litter problems. The vehicle parking area is dirt and is in fair condition with some litter. The canoe portage to the tailrace is also in fair condition.

■ Conditions Interfering with Experience

Of the 36 respondents answering whether the level of concern for conditions that interfered with their recreation experience at the Tillery Canoe Portage access, 53 percent (n=19) said "yes". Of the 14 respondents expressing a concern for level of crowding, 71 percent (n=10) had a low level of concern, with two persons each responding with a medium or high level of concern. With respect to concern for limited access, again of the small percentage that did respond (n=16), 56 percent had a low level of concern, and 38 percent (n=6) had a medium level of concern, and 1 respondent

expressed a high level of concern. Regarding trash and litter, of the 17 responding to this concern, 53 percent had a high level of concern, with 24 percent (n=4) each responding with medium and low levels of concern for improper disposal of litter and trash. Twelve respondents expressed some level of concern for water levels, of which 75 percent (n=9) were low; 17 percent (n=2) expressed medium level of concern; with one person expressing a high levels of concern.

■ Adequacy of Facilities

Respondents to this access area suggested that fishing piers needed protection for small children, who could fall under the fence at the access below the dam on the west bank; signage and/or information should be provided in Spanish; interest in a marina on the Stanly County side of the lake; and, buoys and signage are needed to protect the people near Morrow Mountain (Table 24).

■ Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included having more places to camp, fish from shoreline and picnic; a sound device (e.g., horn) to alert visitors before the dam begins generation; public boating access areas provide bank fishing and swimming opportunity (Table 24).

■ Facility Capacity

The Tillery Canoe Portage approached an estimated facility capacity level during the Memorial Day weekend end, with an estimated of 65 percent of maximum capacity. Table 16 depicts estimated use levels based on year round spot counts. Based on the estimated use levels, the Tillery Canoe Portage reached 30 percent of capacity during May weekdays. July 4 weekend was estimated at 35 percent of capacity, with the rest of the year reaching less than 30 percent of parking facility capacity.

Table 16 Tillery Canoe Portage facility capacity estimates.

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	20	10	0		0.0
Jun 05	WE	20	10	0	0	0.0
Feb 05	WD	20	10	1	0	5.0
100 00	WE	20	10	0	0	0.0
Mar 05	WD	20	10	0	0	0.0
	WE	20	10	1	0	5.0
Apr 04	WD	20	10	2	0	10.0
1	WE	20	10	4	0	20.0
May 04	WD	20	10	2	0	10.0
	WE	20	10	6	0	30.0
	Hol	20	10	13	0	65.0
Jun 04	WD	20	10	1	0	5.0
	WE	20	10	3	0	15.0
Jul 04	WD	20	10	0	0	0.0
	WE	20	10	2	0	10.0
	Hol	20	10	7	0	35.0
Aug 04	WD	20	10	1	0	5.0
_	WE	20	10	3	0	15.0

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Sep 04	WD	20	10	1	0	5.0
	WE	20	10	1	0	5.0
	Hol	20	10	3	0	15.0
Oct 04	WD	20	10	1	0	5.0
	WE	20	10	3	0	15.0
Nov 04	WD	20	10	1	0	5.0
	WE	20	10	0	0	0.0
Dec 04	WD	20	10	1	0	5.0
	WE	20	10	1	0	5.0

Informal Access Area - TW

The Informal Access Area has one one-lane primitive boat ramp in poor condition. The shoreline fishing access is in good condition, with some litter, accommodating approximately 50 to 100 bank fishermen. The power plant road is a two-lane and paved road access in good condition. There are four parking areas which are gravel or clearings, and all are considered to be in good condition.

■ Conditions Interfering with Experience

Of the 94 respondents answering whether the level of concern for conditions that interfered with their recreation experience at the Tillery Canoe Portage access, 67 percent (n=63) said "no". Of the 22 respondents expressing a concern for level of crowding, 68 percent (n=15) had a low level of concern, with 27 percent (n=6) with a medium level of concern. One respondent expressed a high level of concern. With respect to concern for limited access, again of the small percentage that did respond (n=25), 60 percent (n=15) had a low level of concern, and 24 percent (n=6) had a medium level of concern, with 16 percent (n=4) responding with a high level of concern. Regarding trash and litter, of the 28 responding, 39 percent had a low level of concern, with 29 percent (n=8) responding with medium level of concern, and 32 percent (n=9) responding with a high level of concern. Twenty-four respondents expressed some level of concern for water levels, of which 46 percent (n=11) were low; 21 percent (n=5) expressed medium level of concern; with 33 percent (N=8) expressing a high level of concern.

■ Adequacy of Facilities

Respondents to this area expressing that facilities were not adequate, suggested a range of improvements. The provision of toilets and picnic areas were suggested, as well as better facilities for boat access. Respondents commented that access for bank fishermen was limited, and saw fishing piers as an important addition. Suggestions regarding boat ramps were also made, including maintaining the condition of the ramp for two wheel drive vehicles and moving big rocks out of the way. In addition, some respondents mentioned the need for increased patrolling on the lake and better facilities so that the elderly as well as young people can access the lake (Table 24).

■ Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included having more places to camp, fish from

shoreline and picnic; a sound device (e.g., horn) to alert visitors before the dam begins generation; public boating access areas provide bank fishing and swimming opportunity (Table 24).

■ Facility Capacity

With respect to facility capacity, the Informal Access Area exceeded its capacity level once during the weekday in October with 124 percent capacity. The rest of the estimates demonstrate less than 50 percent capacity, with most months between 20 and 50 percent capacity (Table 17).

Table 17 Informal Access - TW facility capacity estimates.

abic 17	Illioi mai A	<u> </u>	acinty capacity	cstimates.		
Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	45	12	2	1	12.8
	WE	45	12	1	1	10.6
Feb 05	WD	45	12	3	1	15.0
	WE	45	12	3	1	15.0
Mar 05	WD	45	12	2	1	12.8
	WE	45	12	5	4	44.4
Apr 04	WD	45	12	7	1	23.9
1	WE	45	12	8	2	34.4
May 04	WD	45	12	4	2	25.6
•	WE	45	12	8	3	42.8
	Hol	45	12	7	1	23.9
Jun 04	WD	45	12	7	2	32.2
	WE	45	12	6	4	46.7
Jul 04	WD	45	12	4	3	33.9
	WE	45	12	6	2	30.0
	Hol	45	12	9	1	28.3
Aug 04	WD	45	12	5	4	44.4
C	WE	45	12	6	2	30.0
Sep 04	WD	45	12	2	0	4.4
•	WE	45	12	7	2	32.2
	Hol	45	12	5	0	11.1
Oct 04	WD	45	12	11	12	124.4 ¹
	WE	45	12	10	2	38.9
Nov 04	WD	45	12	6	2	30.0
	WE	45	12	7	3	40.6
Dec 04	WD	45	12	3	2	23.3
	WE	45	12	4	1	17.2

Facility capacity was exceeded on October 6.

5.0 Summary of Recreation Issues for Blewett Falls Lake

Informal Tailrace Access

At the Informal Tailrace Access site there is one concrete and two dirt one-lane boat ramps, each in fair to poor condition. There is capacity for 50 vehicles and 20 boat trailers in the gravel and dirt parking lot which is in fair condition with some erosion damage. There are some clearings along the shoreline which provide fishing access for 20 to 25 people, and there is a swimming beach in fair condition which becomes exposed at low water.

■ Conditions Interfering with Experience

Of the 95 respondents who answered whether they had experienced conditions that interfered with their recreation experience at Informal Tailrace Access Site, two-thirds (66 percent; n=63) said "yes". Thirty-two respondents expressed a concern for crowded conditions. Of these, 66 percent (n=21) was low concern, 28 percent (n=9) was medium concern, and 6 percent (n=2) was high concern. Of the 40 respondents who expressed concern for limited access at the Informal Tailrace Access Site, 40 percent (n=16) was low concern, 35 percent (n=14) was medium concern, and 25 percent (n=10) was high concern. With respect to the improper disposal of trash or litter, of the forty-two respondents, 24 percent (n=10) expressed low concern, 31 percent (n=13) expressed medium concern, and almost half (45 percent; n=19) expressed high concern. Fifty respondents expressed some level of concern for water levels, of which 22 percent (n=11) were low, 32 percent (n=16) were medium, and 46 percent (n=23) were high.

■ Adequacy of Facilities

Respondents at this access area suggested a need for a toilet facility, improvements to the boat ramps and parking lot (grading and repair), camping facilities open to the public, signage (particularly "no drinking" signs), more public fishing areas, bumper guards on the dock, and trash facilities (Table 25).

■ Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included extending the boat ramp, lights at the tail water camp and along the river, improved access (around the lake and into the rive channel), increased security, toilets, trash cans, camping areas, picnic tables, hiking trails, removing debris and maintaining the roads, and providing public access to the pumping schedules (Table 25).

■ Facility Capacity

With respect to the estimated facility capacity, the Informal Access facility reached 50 percent of capacity on two occasions throughout the year, these being the fishing weekend in April (52 percent) and May weekday (52 percent). Throughout the remainder of the year, facility capacity was generally between 15 and 40 percent during the warmer months, and below 10 percent during the colder months (Table 18).

Table 18 Informal Access facility capacity estimates.

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	50	20	0	0	0.0
	WE	50	20	2	2	14.0
Feb 05	WD	50	20	1	0	2.0
	WE	50	20	1	1	7.0
Mar 05	WD	50	20	5	2	20.0
	WE	50	20	6	4	32.0
Apr 04	WD	50	20	15	2	40.0
	WE	50	20	16	4	52.0

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
May 04	WD	50	20	11	6	52.0
	WE	50	20	8	2	26.0
	HOL	50	20	8	2	26.0
Jun 04	WD	50	20	7	4	34.0
	WE	50	20	9	4	38.0
Jul 04	WD	50	20	5	2	20.0
	WE	50	20	4	2	18.0
	HOL	50	20	6	1	17.0
Aug 04	WD	50	20	4	2	18.0
	WE	50	20	3	1	11.0
Sep 04	WD	50	20	2	1	9.0
_	WE	50	20	7	3	29.0
	HOL	50	20	2	0	4.0
Oct 04	WD	50	20	6	2	22.0
	WE	50	20	5	2	20.0
Nov 04	WD	50	20	1	0	2.0
	WE	50	20	1	1	7.0
Dec 04	WD	50	20	2	2	14.0
	WE	50	20	1	1	7.0

Blewett Falls Canoe Portage

The Blewett Falls Canoe Portage access site is generally in poor to fair condition with excessive litter and holes in the access roads and parking areas. The site has parking for 20 vehicle and 8 boat trailers in a cul-de-sac and small clearing off the gravel access road. There is a small beach around the portage cove used for swimming, and the shoreline is used for fishing for up to 20 people.

Conditions Interfering with Experience

Of the 65 respondents who answered whether they had experienced conditions that interfered with their recreation experience at the Blewett Falls Canoe Portage, more than half (57 percent; n=37) said "yes". Of the 17 respondents who expressed concern for crowded conditions, 77 percent (n=13) was low concern, and 23 percent (n=4) was medium concern. Twenty-one respondents expressed concern for limited access at Blewett Falls Canoe Portage. Of these, one-third (33 percent; n=7) expressed low concern, and 67 percent (n=14) expressed medium to high concern. With respect to the improper disposal of litter or trash, of those responding, 86 percent (n=24) expressed a high to medium level of concern. Twenty-five respondents expressed concern for water levels, of which 52 percent (n=13) were low, 16 percent (n=4) were medium, and 32 percent (n=8) were high.

■ Adequacy of Facilities

Respondents to this access area suggested a need for a toilet facility, garbage cans, improved parking areas, public camping areas, picnic tables, steps up to the bank to improve safety, and better signage (Table 25).

Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included opening a landing for access below Blewett

Falls, providing a bait shop, adding picnic tables, toilets and a water fountain, improving landings, allowing camping at traditional camping locations, and providing a mountain bike course with bike and boat rentals (Table 25).

■ Facility Capacity

The estimated facility capacity for the Blewett Falls Canoe Portage exceeded capacity on two occasions throughout the year, the average April weekday (153 percent) and the Memorial Day holiday in May (113 percent). Other times where the facility approached maximum capacity were the July 4th holiday (90 percent), June weekend (70 percent), April fishing weekend (63 percent) and August weekend (63 percent). For the remainder of the year, the facility generally had a capacity of 20 percent or less (Table 19).

Table 19 Blewett Falls Canoe Portage facility capacity estimates.

l able 19	Blewett Falls Canoe Portage facility capacity estimates.					
Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	20	8	1	0	5.0
	WE	20	8	0	0	0.0
Feb 05	WD	20	8	0	0	0.0
	WE	20	8	1	0	5.0
Mar 05	WD	20	8	1	0	5.0
	WE	20	8	1	0	5.0
Apr 04	WD	20	8	8	9	152.5 ¹
_	WE	20	8	10	1	62.5
May 04	WD	20	8	3	0	15.0
	WE	20	8	6	0	30.0
	HOL	20	8	20	1	112.5^{2}
Jun 04	WD	20	8	4	0	20.0
	WE	20	8	14	0	70.0
Jul 04	WD	20	8	4	0	20.0
	WE	20	8	1	0	5.0
	HOL	20	8	18	0	90.0
Aug 04	WD	20	8	2	0	10.0
	WE	20	8	10	1	62.5
Sep 04	WD	20	8	2	0	10.0
	WE	20	8	5	0	25.0
	HOL	20	8	6	0	30.0
Oct 04	WD	20	8	1	0	5.0
	WE	20	8	3	0	15.0
Nov 04	WD	20	8	1	0	5.0
	WE	20	8	2	0	10.0
Dec 04	WD	20	8	1	0	5.0
	WE	20	8	1	0	5.0

Facility capacity was exceeded on April 7.

Facility capacity was exceeded on Memorial Day holiday.

Grassy Islands Access Area

The Grassy Islands Access Area has a one-lane concrete boat ramp in fair condition, a grassy area along the bank for fishing access, a two-lane gravel access road, and a gravel parking lot for up to 30 vehicles and 12 boat trailers. Generally, the access area is in good condition.

Conditions Interfering with Experience

Of the 62 respondents who answered whether they had experienced conditions that interfered with their recreation experience at Grassy Islands Access Area, the majority (82 percent; n=51) said "yes". Twenty respondents expressed concern for crowded conditions. Of these, 65 percent (n=13) was low concern, 30 percent (n=6) was medium concern, and 5 percent (n=1) was high concern. With respect to concern for limited access, of the small percentage that did respond (n=18), half (50 percent; n=9) expressed low concern, with the other half expressing medium to high concern. Of those that responded to the level of concern for the improper disposal of litter or trash (n=19), 37 percent (n=7) expressed low concern, 42 percent (n=8) expressed medium concern, and 21 percent (n=4) expressed high concern. Forty-six respondents expressed concern for water levels, of which 24 percent (n=11) were low, and 76 percent (n=35) were medium to high.

■ Adequacy of Facilities

Respondents at the Grassy Islands Access suggested a need for more campgrounds, increased law enforcement personnel, a toilet facility, and navigation buoys for stumps. They also suggested that the boat ramps were not adequate due to low water levels (Table 25).

■ Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included increasing camping opportunities, providing the public with a phone or access to water level information/pumping schedules, a toilet facility, the addition of migratory fish in the lake, updated signage at boat ramp, trash cans, lighting in parking lots, improved access to the lake and river, and better grass cutting at the ramp (Table 25).

■ Facility Capacity

For the Grassy Islands Access, there were three occasions throughout the year where the estimated facility capacity was exceeded. These were the Memorial Day holiday in May (155 percent), the fishing weekend in April (153 percent), and July weekday (117 percent). Additional occasions where capacity was greater than 50 percent were May weekday (85 percent), July 4 holiday (62 percent), July weekend (58 percent), November weekend (57 percent), and May weekend (50 percent). Throughout the remainder of the year, capacity levels were less than 50 percent (Table 20).

Table 20 Grassy Islands facility capacity estimates.

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	30	12	2	2	23.3
	WE	30	12	2	1	15.0
Feb 05	WD	30	12	1	1	11.7
	WE	30	12	2	1	15.0
Mar 05	WD	30	12	3	2	26.7
	WE	30	12	3	3	35.0
Apr 04	WD	30	12	5	4	50.0
•	WE	30	12	16	12	153.3 ¹
May 04	WD	30	12	8	7	85.0
•	WE	30	12	5	4	50.0
	HOL	30	12	14	13	155.0^{2}
Jun 04	WD	30	12	4	3	38.3
	WE	30	12	4	4	46.7
Jul 04	WD	30	12	10	10	116.7 ³
	WE	30	12	5	5	58.3
	HOL	30	12	6	5	61.7
Aug 04	WD	30	12	3	3	35.0
	WE	30	12	4	3	38.3
Sep 04	WD	30	12	3	2	26.7
-	WE	30	12	3	3	35.0
	HOL	30	12	2	2	23.3
Oct 04	WD	30	12	2	2	23.3
	WE	30	12	6	2	36.7
Nov 04	WD	30	12	3	2	26.7
	WE	30	12	7	4	56.7
Dec 04	WD	30	12	3	1	18.3
	WE	30	12	2	1	15.0

Facility capacity was exceeded on April 4 and 18.

Informal SR 1744

The access at Informal SR 1744 Site has a one-lane, informal/unpaved boat ramp in fair condition, a swimming beach which is exposed when the water is low, and a grassy and dirt open parking area that can accommodate 25 vehicles and 10 boat trailers. The parking area is in fair condition, and there is excessive litter along the shoreline fishing and shade trees/grass areas.

Conditions Interfering with Experience

Of the 75 respondents who answered whether they had experienced conditions that interfered with their recreation experience at Informal SR 1744 Site, the majority (72 percent; n=54) said "yes". Thirty-two respondents expressed concern for crowded conditions. Of these, 59 percent (n=19) expressed low concern, 28 percent (n=9) expressed medium concern, and 13 percent (n=4) expressed high concern. Thirty-four respondents at Informal SR 1744 Site expressed concern for limited access. Of these, 35 percent (n=12) expressed low concern, and 65 percent (n=22) expressed medium to high concern. Of those that responded to the level of concern for the improper disposal of litter or trash, 23 percent (n=10) expressed low concern, with 77 percent (n=33) expressing

² Facility capacity was exceeded on Memorial Day holiday.

Facility capacity was exceeded on July 5 (a portion of the holiday weekend).

medium to high concern. Forty-four respondents expressed concern for water levels, of which 30 percent (n=13) were low, 39 percent (n=17) were medium, and 32 percent (n=14) were high.

■ Adequacy of Facilities

Respondents to this access area suggested a need for a toilet facility, the trash cans be returned, a better boat ramp, camping facilities, improvements to the parking lot (leveled and filled), disabled access, a fishing pier, and additional signage for anglers (Table 25).

■ Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included the provision of a toilet facility, lights at the launch site, trash cans, extending the boat ramp, additional camping areas, a public beach access, and stumps and snags marked or removed (Table 25).

■ Facility Capacity

The estimated facility capacity at SR 1744 reached 50 percent capacity or greater on numerous occasions throughout the year. Over 100 percent capacity was reached on April weekday (110 percent) and May weekend (118 percent), with 84 percent capacity reached April fishing weekend, 80 percent June weekend, 80 percent July 4th holiday, 70 percent July weekend, 66 percent July weekday, 58 percent May weekday, and 54 percent on the Memorial Day holiday in May. The remainder of the capacity reached throughout the year was 28 percent or less (Table 21).

Table 21 Informal SR 1744 facility capacity estimates.

able 21	informal SK 1744 facility capacity estimates.					
Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	25	10	0	0	0.0
	WE	25	10	0	0	0.0
Feb 05	WD	25	10	1	0	4.0
	WE	25	10	2	2	28.0
Mar 05	WD	25	10	1	0	4.0
	WE	25	10	1	1	14.0
Apr 04	WD	25	10	15	5	110.0^{1}
•	WE	25	10	16	2	84.0
May 04	WD	25	10	7	3	58.0
	WE	25	10	17	5	118.0
	HOL	25	10	11	1	54.0
Jun 04	WD	25	10	5	0	20.0
	WE	25	10	15	2	80.0
Jul 04	WD	25	10	14	1	66.0
	WE	25	10	10	3	70.0
	HOL	25	10	15	2	80.0
Aug 04	WD	25	10	1	1	14.0
	WE	25	10	6	0	24.0
Sep 04	WD	25	10	1	0	4.0
-	WE	25	10	2	0	8.0
	HOL	25	10	3	1	22.0
Oct 04	WD	25	10	1	1	14.0
	WE	25	10	3	0	12.0

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Nov 04	WD	25	10	0	0	0.0
	WE	25	10	2	1	18.0
Dec 04	WD	25	10	0	0	0.0
	WE	25	10	0	0	0.0

Facility capacity was exceeded on April 16.

Pee Dee Access Area

There are four two-lane boat ramps at the Pee Dee Access Area, all in good condition. There are three boat docks that can accommodate 6 to 10 boats, and there is shoreline fishing banks accessible from the lot. The parking areas are gravel with cable dividers and can accommodate 95 vehicles and 70 boat trailers.

■ Conditions Interfering with Experience

Of the 161 respondents who answered whether they had experienced conditions that interfered with their recreation experience at Pee Dee Access Area, more than half (60 percent; n=97) said "yes". Forty-three respondents expressed concern for crowded conditions. Of these, 74 percent (n=32) expressed a low concern, 14 percent (n=6) expressed medium concern, and 12 percent (n=5) expressed high concern. Of the 42 respondents who expressed concern for limited access, 67 percent (n=28) were low levels of concern, and 33 percent (n=14) were medium or high levels of concern. The majority (83 percent; n=45) of the 54 respondents who expressed concern for the improper disposal of litter or trash expressed medium to high concern. The remainder (17 percent; n=9) expressed a low level of concern. Eighty-seven respondents expressed concern for water levels, of which the majority (82 percent; n=75) expressed medium to high levels of concern.

Adequacy of Facilities

Respondents to Pee Dee suggested a need for a toilet facility, a marina, graded parking lots, an extended boat ramp, beach and recreation areas, handicapped access, bigger signs leading to the access area, and trash containers. They were also concerned that when the water level is low it can become dangerous on the docks (Table 25).

Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included the addition of a camping area, a toilet facility, trash cans, a marina, lighting around the parking lot to increase security, designated parking areas, improved boat ramps, the removal of debris around the ramps, marking stumps, planting fish, regulating and limiting jet ski use, handicapped fishing access, and having a game warden check in to maintain and presence (Table 25).

■ Facility Capacity

There were six occasions where the Pee Dee facility exceeded the estimated maximum capacity; July 4 holiday (135 percent), April weekend (133 percent), July weekday (131 percent), August

weekend (129 percent), June weekend (124 percent), and May weekend (113 percent). The facility reached 78 percent capacity April weekday, 72 percent capacity July weekend, and 63 percent May weekday. The Memorial Day holiday in May was estimated at 44 percent capacity, with the remainder of the year reaching 28 percent capacity or less (Table 22).

Table 22 Pee Dee Access facility capacity estimates.

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	95	70	1	1	2.5
	WE	95	70	2	2	5.0
Feb 05	WD	95	70	1	1	2.5
	WE	95	70	4	4	9.9
Mar 05	WD	95	70	6	5	13.5
	WE	95	70	5	5	12.4
Apr 04	WD	95	70	35	29	78.3
_	WE	95	70	58	50	132.5^{1}
May 04	WD	95	70	29	22	62.0
-	WE	95	70	57	37	112.9^2
	HOL	95	70	19	17	44.3
Jun 04	WD	95	70	12	10	26.9
	WE	95	70	68	37	124.4^{3}
Jul 04	WD	95	70	62	46	131.0 ⁴
	WE	95	70	36	24	72.2
	HOL	95	70	66	46	135.2^{5}
Aug 04	WD	95	70	8	7	18.4
_	WE	95	70	61	45	128.5^{6}
Sep 04	WD	95	70	3	3	7.4
_	WE	95	70	12	10	26.9
	HOL	95	70	6	6	14.9
Oct 04	WD	95	70	6	6	14.9
	WE	95	70	8	8	19.8
Nov 04	WD	95	70	3	2	6.0
	WE	95	70	12	11	28.3
Dec 04	WD	95	70	1	1	2.5
	WE	95	70	8	8	19.8

Facility capacity was exceeded on April 10 and 18.

Blewett Falls Access Area/Power Plant

The Blewett Tailwater Access Areahas a private, one-lane gravel boat ramp in fair condition used only by Progress Energy, a concrete fishing pier, approximately 100 yards of shoreline fishing access, and a paved parking lot. The access area is generally in good condition, with some litter observed at the pier, along the shoreline, and the shady area along the river.

Facility capacity was exceeded on May 9.

Facility capacity was exceeded on June 20.

Facility capacity was exceeded on July 5 (weekday).

Facility capacity was exceeded on July 4 holiday.

⁶ Facility capacity was exceeded on August 8.

■ Conditions Interfering with Experience

Of the 137 respondents who answered whether they had experienced conditions that interfered with their recreation experience at Blewett Access Area, just over half (56 percent; n=76) said "no". Of the 32 respondents who expressed concern for crowded conditions, 72 percent (n=23) was low concern, 19 percent (n=6) was medium concern, and 9 percent (n=3) was high concern. Thirty-four respondents expressed concern for limited access at Blewett Access Area. Of these, 47 percent (n=16) were low, 35 percent (n=12) were medium, and 18 percent (n=6) were high levels of concern. Regarding trash and litter, of those responding, a majority had medium to high concern with improper disposal of trash or litter (71 percent; n=32). Fifty-two respondents expressed concern for water levels, of which 25 percent (n=13) were low, 27 percent (n=14) were medium, and 48 percent (n=25) were high.

■ Adequacy of Facilities

Respondents to Blewett Falls Access Area suggested that the toilet facilities (or lack thereof) were "not adequate", that a camping facility should be provided, that the pier should be extended to the elevation marker, the ramps should be extended, and there should be trash cans (Table 25).

■ Activities or Services Currently Not Available

Respondents mentioned several services and facilities that they felt would improve their recreation experience from this access point. Comments included the provision of a toilet facility, easier access to the river bank and a fishing pier, the addition of picnic tables and benches, lighting at the parking area to protect vehicles, a boat ramp at the pump house, public access to a pumping schedule, and more places to camp (Table 25).

■ Facility Capacity

The estimated facility capacity at the Blewett Access was not greater than 38 percent capacity throughout the entire year. An estimated capacity of 38 percent was reached Labor Day holiday in September, with 34 percent in July weekend, 30 percent in May weekday, and 30 percent in July weekday (Table 23).

 Table 23
 Blewett Access facility capacity estimates.

Tubic 20	Die wett riceess lucinty capacity estimates.					
Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jan 05	WD	50	10	2	0	4.0
	WE	50	10	1	0	2.0
Feb 05	WD	50	10	2	0	4.0
	WE	50	10	3	0	6.0
Mar 05	WD	50	10	6	1	22.0
	WE	50	10	4	1	18.0
Apr 04	WD	50	10	11	0	22.0
_	WE	50	10	9	0	18.0
May 04	WD	50	10	10	1	30.0
	WE	50	10	11	0	22.0
	HOL	50	10	12	0	24.0
Jun 04	WD	50	10	11	0	22.0
	WE	50	10	11	0	22.0

Month	Type of Day	Vehicle Capacity	Vehicle w/ Boat Trailer Capacity	Vehicle Count	Vehicle w/ Boat Trailer Count	Percent of Capacity Reached
Jul 04	WD	50	10	15	0	30.0
	WE	50	10	12	1	34.0
	HOL	50	10	7	0	14.0
Aug 04	WD	50	10	8	0	16.0
	WE	50	10	13	0	26.0
Sep 04	WD	50	10	3	0	6.0
	WE	50	10	6	0	12.0
	HOL	50	10	19	0	38.0
Oct 04	WD	50	10	13	0	26.0
	WE	50	10	5	0	10.0
Nov 04	WD	50	10	3	0	6.0
	WE	50	10	7	0	14.0
Dec 04	WD	50	10	1	0	2.0
	WE	50	10	5	0	10.0

6.0 Residents Recreation Activities

Overall Lake Tillery residents spend a majority of their time wildlife viewing, with respondents reporting an overall average of eight days per month engaged in this activity. Motor boating was the next most frequent activity with respondents reporting an average of five days of motor boating per month. Swimming was popular, with an average of four days per month, followed by jet skiing and bank fishing each with an average of three reported days per month (Table 86 [located in Appendix E7-1]).

Summary of comments on recreation activities by Lake Tillery residents:

Jet skis

- We enjoy our jet ski very much
- We used our jet ski every day the water level was up
- I hate these jet skis
- Jet skis interfere with all other lake activities
- There is a need to control jet skis!
- The river level too low for jet skis
- There are too many jet skis on the lake

Swimming

- Enjoy swimming all summer
- Cannot swim because of algae
- Kids swim often
- Poor swimming, due to grass growing on bottom
- Swim usually weekends

Boat Fishing

- Fish every day the water level was up
- Fish every morning
- Did not fish when lake was down
- Need to restock striper and crappie
- Not too lucky
- There is poor fishing

- Too crowded with boats
- Weather permitting

■ Bank Fishing

- Fish for catfish
- Bank fish daily
- I dock fish
- Enjoy very much
- This is my favorite pastime
- I enjoy fishing off my pier
- Fun and relaxing.
- It is good-calm
- Good crappie fishing.
- The lake level low when temp warm
- Nearby lakes have a better fishing
- Need to restock lake
- No fish
- Bank fishing is not good
- Poor fishing overall
- The lake is too crowded with boats

Hunting

- I hunt for duck/goose
- I hunt ducks
- I hunt in Thicketing Creek
- I hunt at the lake house near farm
- I hunt other land
- Should be prohibited on recreational lakes due to danger posed to visitors and residents.
 This is an ongoing and growing problem.
- Waterfowl

• Wildlife Viewing

- I always watch for birds, snakes, deer, etc.
- Amazing to see a bald eagle swoop and sweep a blue heron from eagle's waters. Disheartening to see the myriad of muskrats eating foliage.
- Anytime I happen to see any.
- Bird feeding and watching
- Birds, bees, night critters know it's Spring.
- Birds, muskrats; especially eagles and pileated woodpecker.
- Birds, squirrels, herons, turtles.
- Eagle, and other critters
- I enjoy very much
- I like fish feeding
- Is highly appreciated
- I enjoy seeing the great blue herons, kingfisher, mallards, Canada geese, Bluebirds, pileated woodpeckers
- Mallard hunting needs to be banned before they become extinct.
- Saw a bald eagle attack a great blue heron. WOW!
- We saw several muskrats, fish and ducks
- We sit in the AM & PM in my backyard with Bino's looking at eagles, ospreys, G. Blue herons and other birds

- Too many deer and squirrels! Feeding ducks and seagulls.
- Watch wildlife all the time.
- I enjoy watching & feeding seagulls
- We look at Morrow Mountain across the lake. We love Lake Tillery.

Similar to Lake Tillery residents, Blewett Falls Lake a majority of residents identified wildlife viewing, reporting an overall average of six days per month engaged in this activity. Residents spent an average of five days per month doing "other" activities, which were specified as "living on the Lake and enjoying the Lake everyday." Bank fishing, picnicking, motor boating, and hiking were the next most frequent activities with respondents reporting an average of two days per month participating in these activities. There were no additional comments by residents of Blewett Falls Lake on recreational activities.

7.0 Reasonable Possible Actions to Address Project-Related Issues

Several recreation activities and needs were identified by both Tillery and Blewett Falls Lakes visitors consistent with national and statewide outdoor recreation trends. National outdoor recreation trends and use patterns have indicated sightseeing, non-consumptive wildlife activities are fast growing activities across North America. The North Carolina Outdoor Recreation Plan noted several activities with high future demand, including walking for pleasure, freshwater fishing, beach activities, tent or vehicle camping, bicycling and picnicking (NCORP 2003-2008). The Comprehensive Wildlife Conservation Strategy identified nature centers and educational information, watchable wildlife opportunities, including opportunities for paddling, hiking, camping, and birding as priorities. Similarly, the 1998 NC State Trail and Greenway Survey found that respondents identified walking for pleasure, hiking, bicycling, and canoe and kayaking were the most popular activities; and 75 percent felt it was important to have trails and information on trails, as well as trails close to home. Within the region and proximity of Tillery and Blewett Lakes, the Uwharrie Conditions and Trends report (2005), reported the fastest growing activities for the forest as wildlife viewing, fishing, viewing birds, swimming, day hikes, and primitive camping.

Similar to trends occurring at a state and regional level, Lake Tillery visitors identified interest in the availability of more camping facilities, increased shoreline fishing opportunities via docks or fishing piers, swimming areas, trail markers and maps, watchable wildlife access areas, playground and picnic areas. Visitors at Blewett Falls Lake had similar activities noted they would like to see available, including canoe rentals, picnic areas, information (water levels, wildlife), bicycle trails, camping, handicap accessible fishing access, and increased shoreline fishing access areas.

In addition to noting several outdoor recreation activity trends, the NCORP also identified outdoor recreation needs for the state. Similar to needs identified by participants, NCORP stated a need for improved recreational services, such as space for recreation use, keeping parks safe and clean, need for adequate staffing for park areas, need for recreational programs and facilities, need to manage depreciative behaviors. For Lake Tillery, visitors identified better management of parking areas, toilet facilities, shoreline and dock or pier access, management of boaters and parking areas (e.g., lighting, signage), as ways to improve the adequacy of facilities. Similarly, Blewett Falls Lake visitors had similar comments, adding increased information on lake levels.

Considering the NCORP's report, which stated the demand for outdoor recreation areas has increased in proportion to the citizens participating, the population of the counties contributing the

most visitors to Tillery and Blewett Lakes were identified. For the counties contributing most visitors to Lake Tillery, Stanly and Montgomery County population increases are between 7 to 8 percent. Other contributory counties (approximately 20 percent of visitors) show substantial increases of 23 to 32 percent. With respect to Blewett Falls Lake, most visitors were from Richmond (51 percent) and Anson counties (18 percent), which has an expected population growth of .6 percent and 4.4 percent respectively, by 2020. Through an examination of population trends, a limited understanding of increased use and visitor pressure for facilities combined with needs identified in state and regional plans provides a snapshot of future recreational needs.

Based on survey data and spot count observations, and a summary of recreation trends in the region, Progress Energy has identified the following considerations for both Lake Tillery and Blewett Falls Lake to improve the overall recreational experience of both residents and visitors:

- 1. Installation of sanitary facilities;
- 2. Lighting and increased security in parking areas;
- 3. Managed parking spaces to increase parking capacity;
- 4. Increase shoreline access and handicap access for fishing;
- 5. Hiking trail and trail information;
- 6. Wildlife viewing areas;
- 7. Educating boaters and jet skiers for awareness; and
- 8. Management of trash/litter.

The results of the recreation needs assessment identified certain improvements that primarily related to the behavior of specific groups of recreationists. Realistically, there is little that can be done by Progress Energy to modify or control the behavior. Detailed measures proposed by Progress Energy to improve the use and enjoyment of recreation resources at the Project are discussed in Section 7.12.

8.0 References

- Appalachian State University. 1999. North Carolina's Central Park: Assessing Tourism and Outdoor Recreation in the Uwharrie Lakes Region. Appalachian State University, September 1999.
- Moore, R.L., Siderelis, C., Lee, J-H., Ivy, M.I. and Bailey, G. 1999. 1998 North Carolina Statewide Trail and Greenway Survey. The North Carolina Department of Environment and Natural Resources, Division of Parks and Recreation. Retrieved September 13, 2005, from: http://www.ncsparks.net/trails/
- North Carolina Division of Parks and Recreation. *Undated*. Statewide Comprehensive Outdoor Recreation Plan: North Carolina Outdoor Recreation Plan 2003-2008. Retrieved September 13, 2005, from http://www.ils.unc.edu/parkproject/resource/scorp.html
- North Carolina Wildlife Resources Commission. *Undated*. A Wildlife Action Plan for North Carolina: The Comprehensive Wildlife Conservation Strategy. Retrieved September 13, 2005, from http://216.27.49.98/fs_index_07_conservation.htm

Uwharrie Conditions and Trends. 2005. Retrieved September 13, 2005, from http://www.cs.unca.edu/nfsnc/uwharrie_plan/planning_documents.htm. August 2005.

Table 24 Explanation/comments of respondents describing facilities as "not adequate" at Lake Tillery.

	at Lake Tillery.	
Location	Area of Concern	Comments
Norwood	Toilets	Need second dock; need toilets; need more fishing piers; signage needs to
Access Area		be more obvious
		My wife and kids could use a restroom facility to make the trip more
		enjoyable Nacid tailata at rampa paad mara fishing piers
		Need toilets at ramps; need more fishing piers
		Toilets would make the trip for my wife and kids much more enjoyable
		Need toilets at ramps
		The only access that has piers or toilets is Morrow Mountain. That should
		change.
		Bathrooms are not adequate but they would be hard and expensive to
		maintain Need some toilets at romps: fishing piers good for bank anglers
	9.6	Need some toilets at ramps; fishing piers good for bank anglers
	Safety	Need more buoys, no wake buoys; signs about distance skiers can go to bank and fishermen
	Boat ramp	Boat ramps and parking lot need to be redone.
		Boat ramp too steep
	Marinas	Marinas don't provide much low end
	Parking	Too many nails sticking up on Norwood dock; parking should be more
		organized; need some toilets; need more fishing piers
	Dock	Dock at Norwood is too small for the use it gets and it needs repair. Nails
		are sticking out and rubber edge needs replacing.
	Trash	Need trash can
	Access	Need handicapped parking and pier access and more toilets.
Stony	Trash	Too much trash
Mountain		Too much litter
Access	Toilets	Toilets allow users the opportunity to stay for long periods of time
		One port-a-potty would do the job
		Need toilets; need more fishing piers; need more signage especially for
		out-of-towners who are less familiar with area
		Need toilets; need more fishing piers
		No toilets
		Need places for women to use the restroom.
		Need toilets
	Campground	Provide areas to camp; place trash pick-up areas.
		Need more campgrounds; need more fishing piers.
		More areas to fish and camp; need toilets at ramp if checked often; need
		public fishing piers, even if a fee was charged
		Need to know where camping is allowed and where it is not; not enough
		campgrounds; need toilets; need more fishing piers
	Pier/dock	No fishing piers are provided for the public
		Nice if they added a few fishing piers around the lake
		Need more fishing piers
		Piers are needed for handicapped and elderly
	Fishing/fish stock	Bank anglers do not have enough fishing opportunities around the lake.
	·	

Location	Area of Concern	Comments
Swift Island	Toilets	Toilets
Access		Restrooms not readily available for women
		No toilets
		Women like myself have a hard time on the lake all day without
		anywhere to use the restroom.
		Need toilets to keep things clean
		At least provide a port-a-john
		Females need a bathroom
		Toilets would be nice.
		Toilets only acceptable because we have a house
		Not adequate for women users
		Port-a-john would be nice
		Would be nice to have the option
		Nice to have toilets
		Most close
		There isn't a restroom at any of the public ramps, other than the state
		park.
		Toilet is a must for women
		Would be nice to have toilets
		There are no toilets
		Port-a-johns would be nice for women
		Need more bathrooms
		Nice if a port-a-john was available
	Trash	Places to camp have too much trash and no trash cans
	Parking	Swift Island parking lot is very big but gets cluttered because it is not marked off into parking spots. The public needs a restroom especially for fishermen bringing families
	Access	Need more river access between dam and Highway 109; More signs on
		Highway's Need more public access to support sustainable economic tourism and
		local businesses
		Improvement to access
	Lighting	Lighting around the parking lot needs to be increased
	Picnic/BBQ/	Beach; public phones; courtesy phone
	recreation facilities	Public beach area would be nice for families.
	Lake water levels/	Water is too low to use boat ramps sometimes.
	fluctuations	-
	Pier/dock	Need more fishing piers
	Restaurant/bait shop/store	I want to be able to stop and eat and relax

Location	Area of Concern	Comments
Lilly's Bridge	Trash	Need trash cans to dispose of waste - people would use them.
Access	Boat ramp	Pave ramps and clean up trash.
	Toilets	Need toilets
		Bathrooms for users convenience
		Need toilets
		Public toilet
		Need a bathroom for access areas.
		No toilets
		Public could use an area for relief when they are on the lake all day. I have had difficulty finding several access points because the signs are too
		few. Docks need padding: Engilities are needed for woman and children
		Docks need padding; Facilities are needed for women and children (toilets)
		Would be nice if public would be responsible and maintain toilets
		Women need toilets
		Women need a place to use the restroom when they come
		Bathrooms at boat launch
	Safety	Horseshoe Bend lake area - buoy is not in right place - still hit rocks in
		the area
	Access	Not good access to fishing pier due to new highway construction.
		Less dusty - more gravel or paved.
	Parking	Parking lot is far away
	Signage	Signs don't tell where public fishing/bank fishing is located. New highway construction obscures Lilly's Bridge Pier
		Signs need to be posted further away from the lake. Toilets are needed
		for women and children. Women don't use the lake because of the
		restroom situation.
	Marinas	Open marina
	Pier/dock	No steps down to fishing pier, public toilets needed, need signs about bank fishing facilities
Informal SR	Trash	Too much litter
1740 & SR 1745		Clean up trash
		Trashy
	Pier/dock	Need more fishing piers.
		Need more piers
	Signage	"If you do not know your way around signs" don't help.
	Toilets	Need toilets at access areas; need more fishing piers
		Need toilets at boat ramps; need more fishing piers; need more signage
		and warning signs

Location	Area of Concern	Comments
Morrow	Signage	When you are looking for picnicking areas, there are no signs telling you
Mountain State		about the area at the boat rental.
Park		Family camper sign not large enough
		Need better maps of the park located in more areas.
		No trail maps on signs, maps are paper and hard to find in the park. Each
		trail should be mapped at trailhead
	Boat ramp	More room at ramp
		More space at boat ramp
		Use one more ramp; more hot water; repaint signage
		Need more ramp space, more ramps
	Toilets	Toilets closed for Winter.
		Showers are bad
		MMSP bath house not always open during day
		Need toilets closer to ramp
		Last time we came, the campground bathrooms were kinda gross.
		Bathrooms need to be bigger, more signs for direction, bait for sale on
		site
		Bathrooms could be cleaner
		Toilet not clean
	Parking	Parking lot by boat ramp is too small and people will block you in
		sometimes
		Parking lot could be bigger
		Cars take space that boaters could use
	Pier/dock	Fix the pier from hurricane damage
		Fishing pier not adequate due to the repairs needed, but generally
		acceptable
		Fishing pier is damaged and off limits after the hurricanes
		Pier is damaged and off limits after hurricanes
		Need fish pier maintenance
	Picnic/BBQ/	Need electrical hookups at Morrow Mountain State Park; need toilets
	recreation facilities	closer to ramp
	Debris/	Need more cleaning
	maintenance	
	Lighting	Light on pier
	Access	Need more boat access
	Marinas	Not many marinas on this lake

Location	Area of Concern	Comments
Tillery Canoe Portage	Pier/dock	Fishing piers need more protection for small children – could fall under fence at access below dam on west bank; need more Hispanic signs. Dock would be nice to increase bank fishermen area to fish.
	Signage	Buoys and signs to protect people up near Morrow Mountain
	Marinas	Would be nice if marina was placed on Stanly County side of lake; steel bridge
Informal	Toilets	Toilets and fishing piers need to be built at the hydro facility
Access Area		No toilets
		Females need a place to go, can't always go in bushes
		It would be nice to have toilets.
		Women and children really need toilets to make fishing experience more relaxing
		Need bathrooms, right now using the woods and that isn't legal if caught.
		Bathrooms; Shelters for bad weather and picnicking
	Picnic/BBQ/	Picnic area; grill to cook fish/food
	recreation facilities	These facilities do not match many of the access points on other lakes.
	Access	Need better facilities and more facilities for boat access; more access for public; prices too high at marinas.
		Road entrance is rough; access ramp needs work; picnic table would be nice.
		Need a catwalk at the informal Tillery Access to allow for disabled use
		Access for bank fishermen is limited so building fishing piers in these
		areas would make it much nicer for bank anglers. Road in poor condition to access
	Post ramp	Two wheel drives can't use ramp. Need to maintain roads and ramp at
	Boat ramp	informal access; water washes stone away.
		Ramp needs work
	Safety	Move big rocks
	Marinas	Too expensive for marinas. Elderly and women need somewhere to go to the bathroom.
	Law enforcement/	Not enough game wardens circling lake
	security	

Location	Area of Concern	Comments
Lake Tillery - A	Activities listed to enha	nce recreation experience
Norwood	Toilets	Bathrooms
Access Area		Toilets
		Bathrooms
		Need toilets
		Toilets need to be added in case of emergencies
		Restrooms
	Lighting	Lights in parking lot
		Lighting around Norwood Access should be increased to help with
		vehicle security
		Update lighting around the access
		Lighting around the Norwood Access needs to be improved and
		increased
		Lights in parking lot
	Pier/dock	Minor repairs to the rubber bumper and boards are needed on the dock
		here at Norwood
		New wood around docks, nails sticking out that can scratch boats
		Update padding around the dock to prevent damage on boats and jet skis
		Rubber the dock around the edge so boats aren't damaged as they tie up
		when loading and unloading. Rubber needs to be added around the Norwood dock.
		Provide 2 docks and a water ramp for higher volume periods during the
		summer
		The dock at the Norwood Access needs maintenance repair
	Toilets and trash	Toilets would be nice and trash cans are needed to prevent users from
	cans	trashing the beautiful lake.
	Safety	Marking dangerous areas above 24/27 is needed
	Lake water levels/	Poor communication of Progress Energy regarding water levels
	fluctuations	
	Boat ramp	Less gravel on boat ramp
		Increase width of ramp to allow multiple users
		Less gravel
		Power and water
	Parking	Parking at the Norwood Access should be designated allowing trailers to
		park closer to ramp and eliminate single cars taking spaces.
	Trash	Make lake info available on website
		Trash cans
	Facilities	Need benches and picnic tables
	Restaurant/bait	Vending machines open when marina closed
	shop/store	
	Campground	Public camping areas
	Jet ski	Jet ski conflicts at times

Location	Area of Concern	Comments
Stony	Trash	Trash pickups would be nice
Mountain		Trash cans around the access points would help reduce lake litter and
Access		pollution
		Trash cans are needed at public fishing areas
	Fishing	Need more fish – fishing not as good as in the past
	Maintenance	Fallen tree removed from banks
	Pier/dock	Provide more docks for bank anglers
	Access	Another access closer to bridge, because boat can't get under swift bridge
	Restaurant/bait shop/store	Two places to eat (no more than)
	Law enforcement/ security	More shore patrol by police to reduce vandalism and theft
		Law requiring boats to stay a certain distance from shore
	Toilets and trash cans	Need toilets and trash cans
	Jet skis	Regulation of jet skis to keep them out of backwater areas.
	Recreation	Rental area located at Cook's Marina would be nice for users.
	equipment rental	
	Boat ramp	More ramps
Swift Island	Toilets	Toilets
Access		Just restrooms
		Toilets would be nice for convenience.
		Toilets, lighting at ramps
		Toilets
		Toilets
		Port-a-potty at boat ramps
		Restroom
		Toilets would be nice for women. I bring my wife and she has nowhere to
		use the bathroom.
		Bathrooms or running water
		Bathrooms
		Mark off parking lot for designated spots
		Bathrooms would be nice
		Restrooms
	Trash	Dumpsters or trash cans needed
		Trash cans and a marked parking lot
		Trash cans
		Trash cans at boat ramps to put trash in
		Trash is a problem
		This place just needs some trash cans.
		Providing trash cans for users
		Place trash cans at access points to give users a place to get rid of trash
		Provide trash cans
		Trash cans
		Need trash cans
		Trash cans; port-a-john
	Campground	More camping sites; bathrooms (port-a-potties); water (drinking)
		Need more places to camp and clean up litter

Location	Area of Concern	Comments
Swift Island	Parking	Mark parking lot for better use of space. More info about campgrounds
Access		and other facilities at launch areas.
		Marking parking spots at Swift Island.
		Parking lot would be more efficient if it was updated, sectioned off into
		parking spaces.
		The parking lot would be better improved if it had designated parking
	Access	spots. A public park, food establishments, staging for concerts
	Access	Bigger parking lot
		Put a wildlife access if possible on the Montgomery side upstream of
		24/27 bridge.
		More ATV trails
	Fishing/fish stock	More fish stocking
	Lighting	Lighting around parking lot for night use.
	Jet skis	Restrictions on jet skiers and their usage needed
		More law enforcement for jet skiers
		Enforcement of jet skies and limiting them to main channels
	Picnic/BBQ/	Picnic tables and portable toilets
	recreation facilities	Beach or recreation swimming areas would be nice.
		Picnic table in the shade
	Debris/	Need to mark tree trunks and rocks; port-a-johns
	maintenance	
	Pier/dock	A fishing pier
	Restaurant/bait	Need a restaurant
	shop/store	Somewhere to eat on water other than snack food
		Restaurant and restrooms
		More restaurants
Lilly's Bridge	Trash	Trash cans
Access		Trash everywhere and no trash cans
		Clean up debris and trash in water
		New fishing pier needs a trash can
		Need trash cans here and benches.
		Trash cans at access area
		New pier is good but it needs a trash can
		Trash cans at boat ramps
		Garbage cans at facilities
		Need garbage cans but it was nice for the city to turn the bridge into a
		pier
	Boat ramp	More boat ramps at access areas
	Restaurant/bait	Eating facilities
	shop/store	Restaurants on water
		More restaurants/marinas on the lake
		Restaurant needed on lake
		Store at Lilly's bridge needs to open
		Restaurant that is accessible from the water would be nice
	D	Food services/restaurants on the lake
	Restaurant/bait	More facilities on lake to purchase gas
	shop/store	Bait store
		Store/restaurant on the lake

Location	Area of Concern	Comments
Lilly's Bridge	Toilets	Need restroom for public facilities
Access		
		Restroom facilities needed
		Bathroom facilities at boat ramps
		Bathrooms at launch facilities
		Toilet
		Toilets
		Restrooms needed and police boats to enforce law
		Restrooms needed
		More trash cans are needed for users
		Bathrooms at access points
		Bathrooms at boat launch
	Debris/	Remove trees floating in lake
	maintenance	Maintaining the path to the fishing dock would be nice
	Lighting	Better lighting around all of docks
		Another light in parking lot.
		Light; posted rules.
		Need lighting for access areas, particularly bank fishing areas.
		Light for boat ramp facilities, no fishing from bank at boat ramps at night.
	Safety	Navigational buoys need replacing on rest side of lake (Norwood side)
	Campground	More campgrounds open to public
		More public campgrounds, use of public lands
		Add camping, picnic areas.
		Need more camping
		Better camping facilities around the lake
	Picnic/BBQ/	Swimming areas for public
	recreation facilities	
		Picnic areas and swimming areas for public use at access areas
		Playground for children at a public beach access would be really nice.
	Parking	Paving lot for parking
	Signage	Need better signs for bank fishing, better access on other side of road, for
	Y 6	handicapped.
	Law enforcement/	More patrol by law
	security	Policing is great! Enforce no wake zone; jet ski.
	Marinas	Another public marina on lower lake
		Marinas open on Mondays for public
		More marinas available to public for food and gas
	Jet skis	Too many jet skiers
	Lake water levels/ fluctuations	Water could be higher

Location	Area of Concern	Comments
Informal SR	Trash	Pave informal time
1740 & SR 1745		
		Litter everywhere
		Clean up the garbage people have dumped here
		Less trash
		Too much litter here
		Need more trash cans
	Pier/dock	More pier access
		Repair dock at Lilly's Bridge
		Adding a few public fishing piers would really help out the bank anglers
	Picnic/BBQ/	Picnic tables would be great out here
	recreation facilities	Picnic tables and a clean area for swimming.
	Access	Better access, road to ramp
Morrow	Signage	Trail markers to ID which trail you are on
Mountain State		
Park	D	T 1
	Boat ramp	Leave park ramp open
	Toilets	More bathrooms
		Restrooms not always open
		There is running water and bathrooms but no water fountains
	Parking	Increase the size and change the arrangement of parking at Morrow
		Mountain Access. Parking access and marked areas for fishing from bank should be more
		accessible
	Pier/dock	Build a new pier
		More fishing piers
		Additional fishing piers at other location on the lake
		Bridge to island. More fishing piers.
	Picnic/BBQ/	Playground for kids/museum was closed
	recreation facilities	Biking trail
		Electrical and water hookups; Kayaks for rent
		Play area for children
		Playground for kids
		Playground, swing, slide, seesaw
		Playground for kids – need ash trays/butt disposal
		Designated swimming area
		Benches along water and trail
		Playground for kids
		Volleyball, horseshoes, golf course
		Need swimming area
		More picnic tables; benches along trails
		Volleyball recreation; horse shoe pits
		More children (playground etc.)
		Playground at Morrow Mountain
		Swimming area with waterslide
		A public swimming beach here
		Playground for kids
		Need swimming area on lake

Location	Area of Concern	Comments
Morrow	Picnic/BBQ/	Paddle boats, swimming beach, grills, tackle at snake house
Mountain State	recreation facilities	Playground at Morrow Mountain
Park		Playground
		Swimming beach, store with bait
		Playground for kids
		Designated swimming area
		Access to water fountains
		Area for swimming
		Summer membership to swimming pool
		Benches along trails
	Restaurant/bait	Local bait availability
	shop/store	Live bait sales at Morrow Mountain. Concession stand open. Grills
	1	available.
		A store
		Cheesecake factory
		Hotdog stand
		Restaurants on lake
		Restaurant
		More bait shops
		Sell bait at campground so people don't have to leave
		Restaurant
		Firewood for sale, ice available after hours
		Need a general store, add bait to canoe rental
		Store
		More snacks available
	Campground	Electric campsites, hookups, and bait availability, keep boat rental open
	Campground	late
		Reservations for camping; Playground for kids
		Designated bike trails would be nice to have in the campground.
		Electricity in campsites; designated swimming area
		Power at campsites, water
		More campgrounds, some on lake
		Need campsites by water
	Fishing/fish stock	Better bank fishing area
	Debris/	Tree debris cleanup around camps and in sight.
	maintenance	Tree debris creanup around earnps and in signi.
	Trash	Clean up trails
		Trash cans on trail
	Lighting	Lights could be added to access points
	Access	Provide public beach and swimming access
	Recreation	Add paddle boats
	equipment rental	Bike rentals, horseback riding
	-qaipinoni rontui	Fishing boat rental
		_
	Let alrie	Canoe boat/paddle boat rentals
	Jet skis	Separate jet skis and fishing days
		Limit amount of boats on lake; ban jet skis
	G.C.	Rent jet skis
	Safety	More danger buoys to mark hazards up near dam upstream

Location	Area of Concern	Comments
Tillery Canoe Portage	Picnic / BBQ / recreation facilities	More places to fish, camp, picnic
	Lake water levels / fluctuations	A horn should be provided and blown before dam starts generating
	Campground	I would like if they would allow camping again
		It would be nice if they allowed camping again
	Trash	Need trash cans
	Access	It would be nice if public boating access areas had bank fishing and swimming opportunities
Informal	Toilets	Port-a-potty
Access Area		Restroom; smoother access; pave road
		Need toilets
	Picnic/BBQ/	It would be nice to place a soda machine and snack machine at the
	recreation facilities	parking area for the informal access users.
		Picnic tables
	Pier/dock	Fishing pier along bank b/c the rocks are slippery
	Access	Better road access
		Limited access for boats
		Walkway up to the dam for fishermen
	Boat ramp	Pave ramp for boat entry, cut a canal to access the turbine area by boat
		better.
		Updating and improving the ramp at the Tillery Dam
		Fixing boat ramp at tailrace with a diversion wail
	Trash	Need to provide trash cans, so it doesn't end up in river
	Lake water levels/	Improve water level
	fluctuations	Provide the public with a pumping schedule.
		A generation schedule for the public
	Fishing/fish stock	Fishing only

Table 25 Explanation/comments of respondents describing facilities as "not adequate" at Blewett Falls Lake.

Location	Area of Concern	Comments
Blewett	Toilets	No bathrooms;
Access Area		No toilets;
		Toilets are needed for fishermen, ladies and children so they don't use the
		corner;
		Toilets;
		Toilets would be nice for women - I don't bring my daughter as much
		because there is no restroom;
		The nearest restroom is 3 miles away. The users really need something here
		at the pump house; Toilets are really needed for convenience. Now I have to go up to HWY 74
		to use the restroom;
		Toilets are needed to stop fisherman from using the powerhouse wall;
		Need restroom as women can't go when at the lake;
		You have no toilets for the women nor men to use;
		Toilets would be nice;
		Toilets are needed to keep tail-water fishermen from using the wall;
		We need toilets at this location;
		No toilets;
		No toilets;
		Port-a-john to keep fishermen from using the wall
		No restrooms, no piers on the lake, wheel house ramp is excellent
		Place for relief and running water would be nice.
		You need port-a-johns for women & men
		Would like port-a-johns
		Women need facilities.
		There is not a restroom facility provided for the public.
		No where to use the bathroom
		No toilets.
		Need toilets bad.
		Need places for bank fishermen so they don't have to use the "woods". If someone didn't know the area, signs wouldn't get them here.
		Women use Blewett Access and need access and facilities; Drinking
		fountain is also needed for fisherman in general
		Toilets are needed for obvious reasons; People use the dam wall to urinate
		and that needs to be changed.
		A public fishing area such as this that attracts the number of people it does
	Commonand	should have a restroom. Camping is an activity that many people participate in during the summer
	Campground	and since public camping has been closed around the lake the locals have
		nowhere to go. Fishermen here need toilets because they have only the
		woods or have to drive back to town.
	Pier/dock	Extend pier to elevation marker, more no trash signs, port-a-johns for men &
		women
	Boat ramp	Ramps are too narrow, litter on banks parking limited
	1	It would be nice if the left-hand boat ramp were extended so they can be
		used during low water periods. The parking lot here washes out about every
		2 months and needs more attention to keep it smooth.
	Trash	Lots of trash.
	•	

Location	Area of Concern	Comments
Blewett	Lake water levels/	More stable lake levels - had \$13,000 worth of damage. Trash dumpsters at
Access Area	fluctuations	ramp. Would like bathrooms - more no trash signs
		Lake fluctuation affects fishing and boating. Not enough signage in tail-
		waters areas.
	Law enforcement/	People should not drink.
	security	N
	Marinas	No marinas on lake or piers.
Pee Dee	Campground	There needs to be a campground to cut down on litter all over the river.
Access Area	Toilets	More boat ramps, some toilets, some piers
		Bathrooms would be nice, but probably not cost effective.
		Not enough.
		No toilets.
		Lack of toilet facilities makes it very hard on female lake users.
		No toilets.
		Women especially need a restroom
		We need a port-a-john at least
	Marinas	Need a marina
	Parking	Parking lot needs car without trailers (parking)
		Parking lot is washing away
		Holes in parking lot and at bottom of ramp
		Parking lot needs to be graded
		Lighting in parking lot.
	Boat ramp	One ramp is too steep.
		Extend ramp for low water. No private docks or marinas – leave as is. Would
		like fishing piers for folks to stay off of docks
		When water is down ramp is too short.
		Holes at the bottom of ramp.
		Boat ramp needs to be extended to allow for use when water level is
		extremely low.
		Holes at the bottom of the ramp; debris all over the ramp and dock; no
		toilets; no fishing pier Boat ramps acceptable except during low water periods; it needs to be
		extended for those times.
		Ramp could be longer.
		Extending the ramp for low water periods is needed. When water is low
		sharp drop off is found at the end of ramp.
		Dig out around boat ramp-big hole at end of boat ramp
		Improve boat ramp
		Need to run concrete further out on ramp for low lake levels. Move right
		hand ramp at Pee Dee Access to a flatter position for entrance.
		Rubber bumpers on docks. Holes behind ramps. Screws and nails sticking
		out.
	Picnic/BBQ/	Need to add beach and recreation area on the lake.
	recreation facilities	Not done and
	Lake water levels/ fluctuations	Not deep enough
	Huctuations	When water levels are low docks become dangerous.
		Too shallow around ramps
	TD 1	No water.
	Trash	Trash containers.
		Boat ramp on Richmond County side. Trash cans are needed so people will
		use them.

Location	Area of Concern	Comments
Pee Dee Access Area	Access	Lot needs to be bigger, handicapped fishing pier
		Lot too small
	Signage	Signs could be bigger leading to access point
Grassy Islands	Campground	More lights at docks.
Access Area		Need more campgrounds; need toilets at docks
		Camping area are not adequate for number of users. After camping was
		shutdown at the dam and other places, campers without boats don't have
		anywhere to go. More campgrounds. Maps need to point to current location and name ramps.
		No camping or trash cans
		Campgrounds need more space; need port-a-john
	Lake water levels/	Not enough water sometimes
	fluctuations	Two chough water sometimes
	Law enforcement/	Increase law enforcement personnel.
	security	-
	Toilets	Would like to see a port-a-john
		This access is 10-15 minutes from the nearest public restroom so it needs at
		least a port-a-john.
		No toilets at camping facilities.
		Need port-a-john if clean
		Need toilets for ladies; need fishing piers on lake; can't camp on grassy islands anymore since last years
		No bathrooms.
		No bathroom at all - Port-a-john.
		Have no toilets, fishing piers, signage
		Toilets would be nice for women and children or emergencies.
	Safety	Navigation buoys for stump field need to be better.
	Boat ramp	Boat ramps not adequate due to water levels; need toilets for ladies; need
		more fishing piers.
		Need 2 boat ramps during peak use.
		Does not state if you can bank fish
Blewett Falls	Access	Too small.
Canoe Portage		Need more access to usable facilities.
Tortage	Diania/DDO/	Tables and stone on houle and a
	Picnic/BBQ/ recreation facilities	Tables and steps up bank; safer.
	Trash	Need garbage cans at parking area - keep clear show where to get in access
	114011	area
		Too much trash and glass.
		Cleanliness.
		Restroom or port-a-johns
		Mud holes and trash.
	Toilets	Toilets are an obvious need for all users
		Need port-a-johns or buildings; need fishing piers above and below dam.
		Blewett "grave" ramp needs work and parking lot; need port-a-johns
		There is not a marina (or) campground, public toilet, or public fishing pier

Location	Area of Concern	Comments
Blewett Falls	Boat ramp	Ramp below dam needs grading; camping now illegal; need port-a-johns;
Canoe Portage		need piers in river on east side
		Tailrace ramp needs work; signs - others may need more direction
	Parking	More parking
		Needs gravel and fill in holes. More parking
		Need to improve parking lot drive area with gravel/paving
		No parking lot
		Parking lot should be bigger
	Campground	No allowing camping at all of the public access points really isn't fair
		because everybody in the area has camped around here for years. If it is
		going to be prohibited at least provide a place that we can.
		Public camping areas are not adequate since camping has been stopped at
		most public access
	Lake water levels/	Not enough water
	fluctuations	
	Safety	The public needs a safer place that is convenient for fishing
	Signage	Need more directions and travel guides for newcomers. Signs are very few and misleading.
U.S.	Toilets	Toilets would be nice
Highway 74		Would be nice to have toilets
Site		There are not any in the area.
		At 74 only one ramp now; need toilets at power plant fishing bridge
	Boat ramp	Boat ramps not properly managed, bad holes. Parking lots: not enough lights
		for night-fishing.
		Need another ramp at this facility. Only 1 ramp is available
Informal	Boat ramp	Needs to be dug deeper for easier boat launch during low water
Tailrace		Better boat ramp. Parking area needs improvement
Access		Need tailrace ramp; parking lot too rough
		The ramp here at the informal access area needs serious work so it can be used at all water levels. The parking area here is also extremely washed out and needs some attention. Ramp needs to be paved again.
		Poor ramp in tail-water; parking lot very curvy (off-roading); need port-a-
		johns; need fishing piers at east side.
		Boat ramps/docks and parking lot are not adequate at the informal access but
		ok at the new boat ramp on the lake
		Does not go into river far enough.
	Access	No access below dam on Anson Side.
		Single access point at Pee Dee access needs leveling out.
	Toilets	The public anglers at this lake do not have piers or toilets; it would be nice if this lake could be updated like the other area lakes.
		No toilets.
		No toilets.
		Need port-a-johns; need fishing piers on east side; ramp below dam is poor; need better description of portage routes.
		Toilets would be nice but not a problem
		No toilets.
		Don't have any toilets.
		Women have to leave and return to Rockingham if they need to go.

Location	Area of Concern	Comments
Informal	Toilets	Would like restroom
Tailrace		No bathrooms.
Access		No toilet facilities at Powerhouse.
		Would like to not have to leave the area to go to restroom
		Would be nice to have (toilet) in case of emergency
		Toilets except for women.
		Toilets and fishing piers are not provided therefore they are not adequate.
		All three (toilets, fishing pier and signs) do not exist for users at this lake.
		Toilets are needed around the Blewett access to prevent users from using the wall
		No public piers or restrooms are provided
	Trash	Less trash
	Campground	Public not allowed to camp on river anymore! Needs to be opened to public
	18	to camp.
		Need better facilities for camping; especially in and around the lake.
	Parking	Parking lot needs better grading; need campgrounds allowed somewhere
		The parking area and ramp need filling in and repair. The end of the ramp
		should be dug out so it can be used at periods of low water
	Lake water levels/	Too low sometimes on Richmond County side.
	fluctuations	
	Signage	Did not see any informational signs.
	Fishing/ fish stock	More public fishing areas. Put up no drinking signs & enforce them, add on to walkway - extend out to water level indicator on east side of tailrace
	Pier/dock	Need bumper guards on docks; need better/more areas/cleaner campgrounds;
		need swimming/diving area
Informal SR 1744 Site	Toilets	There are no toilets, no fishing piers and no trash cans.
		No facilities, needs dumpsters.
		Not enough boat trailer parking at old boat landing. No toilets period. Water levels are ridiculous. Need facilities for women and older folks.
		No toilets.
		Toilets are needed because women like myself cannot use the woods easily.
		Need toilets during active season
		Restrooms would be nice; signs saying no trash dumping; would like fishing
		pier. Women need a place to use the bathroom
		Need port-a-johns. Need to increase opportunities for elderly people who can't walk far.
		Signs are not adequate to find your way around if you don't know the area.
		Elderly people use this lake access and they need a restroom area.
	Trash	Trash cans need to be put back because we will use them if they were here
	Boat ramp	Some too steep.
		Not adequate for the old & new boat ramps (SR 1744)
		Boat ramp silted in and needs better ramp for unloading/loading boats
	Campground	We need to be able to camp like we used to
		Locals need more areas to camp; camping has been eliminated to boaters and that is not fair
		There is not a campground on this lake and it needs one. Same goes for toilets.

Location	Area of Concern	Comments
Informal SR 1744 Site	Campground	Not enough camping areas
		No camping facilities, too much trash
		Not enough campgrounds and/or not right one's chose.
		Not enough camp areas.
	Parking	Parking lots washed out and needs to be leveled and filled; camping has been shut down to the public that doesn't have a boat and that's not right Roots; people just parking any way they please and most of them don't even care about if you can stay or not! As long as they get what they want Parking lot needs improvement
	Access	Needs to provide more places that bank fisherman can utilize. Disabled people cannot walk very far.
	Fishing/ fish stock	Would like fishing pier
	Signage	Needs additional signage for anglers
	Lake water levels/ fluctuations	Not good facilities for loading unloading boats – too shallow
Highway 109	Parking	Very muddy parking and drive area at landing. Needs parking or crush and run rocking.
	Toilets	Need a toilet at boat ramp
	Campground	Need areas that are convenient for camping.
Blewett Falls		ed to Enhance Recreation Experience
Blewett	Toilets	Toilets
Access Area		Need toilets at Powerhouse
		Rod holders fixed on safety rail for fisherman
		Bathrooms
		Need a boat ramp here on Hanson County side below Blewett Access.
		Bathrooms
		Provide public access to general generation times would help tail-water fishermen.
		This spot needs bathrooms so people won't urinate on the pier.
		Provide a bathroom to reduce open use or the wall or in the bushes.
		Restrooms/water
		Bathroom for kids and ladies
		Bathrooms
	Access	Easier access to river bank
		Access around to east side for pier fishing, toilets
		Fishing pier access is nice but it would be nice to get access to far point.
	Picnic/BBQ/	Bathrooms and benches, picnic tables
	recreation facilities	Drink machines would be convenient
		picnic tables
		Picnic tables along the water
		Picnic tables in the shade would be nice
	Lighting	Lights needed at boat ramp parking to protect vehicles
	Boat ramp	Put in boat ramp downstream m of the PH on Anson County side
		marina
		Add boat ramp at pump house or just downstream of it
		Boat ramp on Richmond County side of lake.

Location	Area of Concern	Comments
Blewett	Lake water levels/	For lake, designated camping area accessible for vehicles and on foot.
Access Area	fluctuations	Provide public access to pumping schedule
		Water.
		Provide pumping schedule so we know when to come fish
		A generating schedule would be nice for fishermen who plan their fishing around pumping schedules.
	Campground	More camping places
Pee Dee	Campground	Camping
Access Area		Better camping areas and toilets.
	Toilets	Trash cans and toilets.
		Bathrooms are needed; lake is several miles from the nearest restroom
		Toilets, picnic tables.
		No toilets.
		Bathrooms
	Marinas	Marinas
		Marina for food and gas.
	Lighting	Lighting around the parking lot would increase security
		Lights and garbage cans
		Lights in parking lot
		Add lights to parking lot
		Lighting around the parking lot needs to be improved to reduce theft.
		Lights around the access would be nice for security at night
		Lights in parking lot would increase safety
		Lights in this parking lot
		Lights in parking lot
	Parking	Parking lot could be bigger for holiday times
		Clean up some debris
		Parking in the Pee Dee access is out of order, spots need to be designated
		Lights in parking lot.
	Boat ramp	When the water is low we need better ramps.
		Maintain water levels for spawning season. A light in the parking lot
		Fix holes on ramp; remove debris; add toilets; add fishing pier.
		Extend the ramp so that it can be used when the lake is low.
		The ramps need to be extended so they are usable during low water periods.
		It would be nice if the ramps would be kept clean of debris, as much as the
		water rises and falls debris clogs the ramps.
	Debris/	Clean up some of the floating debris (trees and trash).
	maintenance	Mark stumps
	Lake water levels/	Keep water up
	fluctuations	
	Fishing/fish stock	Plant fish in lake
		No improvements for recreation other than fishing. Keep it natural
	Jet skis	Regulate the jet skis and limit them to main lake areas
	Trash	Trash cans should be placed at boat ramps
		Trash cans
		Trash cans
		Trush Curs

Location	Area of Concern	Comments
Pee Dee	Access	Lot needs to be bigger, handicapped fishing pier
Access Area		Ramp access should be increased at the Pee Dee access during peak periods.
		Ramp access is too crowded
		Handicap access for wheelchair.
	Law enforcement/	Have game warden check in occasionally to maintain a presence. Maybe
	security	more no trash signs. Regulate jug fisherman
Grassy	Campground	Control water level for spawning and access
Islands Access Area		Increase camping opportunities.
	X 1 1 1 /	
	Lake water levels/	Phone number to find out about generation schedule
	fluctuations	Please provide the public with power production schedule so we can use the
		lake.
		Provide a pump schedule or a water level that fishermen can access before they make a trip to the lake.
		A pumping schedule that is accessible by the public and will not drop the
		lake levels to extreme levels
		Keep lake levels up
		Make water levels maintain a more constant level at this access point.
		Access to water level information would be nice. This access is not usable
		when the dam is generating – we need to know beforehand
	Pier/dock	Boat dock nearer Little River to get away from juggers; no more juggers
	Toilets	Would like to see a port-a-john
		Toilets would be a nice addition
		Water level fluctuations
	Fishing/ fish stock	Migratory fish passages/stock fish (baitfish) in lake.
	Signage	Update sign at boat ramp when outages occur
	Access	Deeper channel
		River bank need to be open to the public for fishing and over night camping
	Trash	Trash cans.
		Trash cans at boat ramp. Port-a-johns
		Trash cans
	Lighting	Lights in parking lot. Raise water level.
	Parking	Parking lot needs a light that is bulletproof
		·
<u> </u>	Boat ramp	Better river/lake access (more points); better grass cutting at ramp
Canoe	Access	Open landing below BT Falls.
Portage		More access areas
	Restaurant/bait	Bait shop
	shop/store	Cuitle divine heard missis tables
	Picnic/BBQ/ recreation facilities	Grills, diving board, picnic tables
	recreation facilities	Toilets; picnic tables; grills
		Water fountain; picnic facilities
		Concessions, drink machines (park), benches
	Trash	Trash cans
		Clean up area and add trash cans.
		Trash cans
		Provide trashcans to allow people places to dispose of trash.
		Trash cans.
		Trashcans
		Somewhere for people to dispose their trash.
		Somewhere for people to dispose their trasii.

Location	Area of Concern	Comments
Canoe	Toilets	Bathrooms, easier access, picnic tables, parking lot
Portage	Boat ramp	Marina on Blewett Falls, bathrooms here
		Improve landings
	Campground	Allowing camping at places that were traditional local camping sites
		Public camping areas need to be increased even if it would cost the users.
		More camping facilities.
	Recreation	Trash cans; mountain bike course, bike & boat rentals; public park
	equipment rental	
Highway 74	Fishing/ fish stock	Private fishing areas.
	Parking	During summer months parking lot is very crowded.
	Toilets	Port-a-johns, fix boat landing at dam
	Boat ramp	Work on boat ramp, better accessibility, trash cans
	Debris/	Logs removed.
	maintenance	
	Lake water levels/	Is there (a number) to call (when they are) to turn on the wheel at the dam
	fluctuations Trash	Trash cans are needed
	Hasii	Dumpsters.
	Recreation	Canoe rentals
	equipment rental	Canoe remais
	Campground	Camping should not be regulated as much as it is
	Picnic/BBQ/	Something for kids. Picnic tables, port-a-john
	recreation facilities	Sometimes for mass from the tasts, port a joint
Tailrace	Boat ramp	Bad ramp; reopen other ramp at 74 bridge; trash cans
		Extend boat ramp
		Lights at tailwater camp and down along river
	Access	Maintaining this public access even if a small fee is needed; most public
		access around the lake is in bad shape.
		More access
		Trees and cover needs to be cut back so we can have enough bank access
		Opening a small passage from informal access to main river channel when
		water is low would be nice. Dredge a small 50ft opening.
		Please bring in back hoe to dig out the end of the informal access. It has filled with sediment in the past few years.
		Increase security around all access points.
		Progress Energy needs to open the tailrace walkway so users can have access
		to the opposite bank and adjacent point.
	Toilets	Bathroom
		Bathrooms and lights.
		Toilets
		Restrooms, lengthen the walkway to campsite on lake (as in build them)
	Trash	Add trash cans
	Campground	Designated camping area
		More camping opportunities.
		Camping

Location	Area of Concern	Comments
Tailrace	Lake water levels/	Sounding a horn when generating is about to begin will alert fishermen of
	fluctuations	changing water levels.
		Provide the public away to check the water levels and pumping schedule so
		they can use this resource.
		It would be nice to have a way to get the water levels before I drive out here
		to fish
		Water levels should not fluctuate to the extremes that they do.
		Provide generating schedule for the public so they will know when the water
	D: : /DD 0 /	will be up or down
	Picnic/BBQ/	Need some tables to eat on.
	recreation facilities	Hiking trails
	Debris/	Cleaning brush back and maintaining the roads would be a nice
	maintenance	improvement.
SR 1744	Toilets	Toilets.
		Bathrooms – showers
		Toilets and lights would be nice at every launch site.
	Trash	Trash cans are needed to keep people from dumping trash
		Trash cans.
		Trash cans need to be provided so the public has a place to dump trash
		Take care of trash
	Boat ramp	Boat ramp; dock; trash cans; toilets
		Extend the ramp at Pee Dee access so it can be used when water is extremely
		low
	Campground	Campsites available near boating facilities
		More camping areas
		Camping areas are needed for the public.
		Bath house; Camping, picnic areas you know like they've got at Morrow
		Mountain. We all know the river should be enjoyed not abused.
	Access	A public beach access would be nice for summer recreation.
	Debris/	Have stumps marked better or removed. Make the lake a lot safer and more
	maintenance	enjoyable.
Highway 109	Boat ramp	Boat ramp between hydro dam and 109 bridge.
	Debris/	Remove Snags
	maintenance	