

# RECREATION USE AND NEEDS STUDY REPORT

STEVENS CREEK HYDROELECTRIC PROJECT

FERC No. 2535



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**Dominion Energy South Carolina,  
Inc.**

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## 1.0 INTRODUCTION

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Dominion Energy South Carolina, Inc. (DESC) is the licensee of the Stevens Creek Hydroelectric Project (Stevens Creek Project; Federal Energy Regulatory Commission [FERC] No. 2535). The Stevens Creek Project is in Edgefield and McCormick counties, South Carolina, and Columbia County, Georgia, at the confluence of Stevens Creek and the Savannah River. The Stevens Creek Project is approximately 1 mile upstream of the Augusta Diversion Dam and approximately 13 miles downstream of the J. Strom Thurmond Dam (Thurmond Dam). The Stevens Creek Project occupies approximately 104 acres of federal lands within the Sumter National Forest. Three existing project recreation sites are on federal land and are managed through an agreement with the U.S. Forest Service (USFS).

### 1.1 Study Purpose and Objectives

On November 22, 1995, FERC issued a 30-year license for the Stevens Creek Project, which is scheduled to expire on October 31, 2025. DESC is developing a new license application for the Stevens Creek Project and intends to file the final application with FERC on or before October 31, 2023. The relicensing process involves cooperation and collaboration between DESC, as licensee, and a variety of stakeholders including state and federal resource agencies, state and local government, non-governmental organizations, and interested individuals. As part of relicensing, DESC established a Recreation and Land Management Resource Conservation Group (RCG), with interested stakeholders to address issues related to recreation and land management at the Stevens Creek Project. DESC and the RCG agreed that a recreation study was necessary for relicensing.

DESC conducted a Recreation Use and Needs (RUN) study in 2021 and 2022 which assessed existing and future recreational use, opportunities, and needs for the Stevens Creek Project. The study was designed to provide information pertinent to the current and future availability and adequacy of DESC-owned and managed recreation sites, USFS owned and managed recreation sites, and Columbia County (Georgia) owned and managed recreation sites at the Stevens Creek Project. The overall study objective was to identify current and potential recreation opportunities, use, and needs at the Stevens Creek Project by addressing the specific goals and objectives listed below. Results from the study will be used to develop a new Recreation Management Plan (RMP) for the Stevens Creek Project.

Goal 1: *Characterize the existing use of recreation sites at the Stevens Creek Project by meeting the following objectives:*

- i. Identify recreation sites; inventory the services and facilities offered; and assess the general condition of each site (including whether the site provides barrier free access).
- ii. Identify patterns of use at each site (type, volume, and daily patterns of use).
- iii. Assess existing recreation sites located on federal land for consistency with USFS Sustainable Recreation Strategy.

Goal 2: *Identify future needs relating to public recreation sites at the Stevens Creek Project by meeting the following objectives:*

- i. Identify existing user needs and preferences, including perceptions of crowding at recreation sites.
- ii. Estimate future recreation use of existing recreation sites.
- iii. Identify future needs for new recreation sites and facilities.

## **1.2 Study Development and Consultation**

Early in the relicensing process, stakeholders requested additional recreation information for the Stevens Creek Project beyond what was included in the Pre-Application Document. DESC and stakeholders collaborated to develop the Stevens Creek Recreation Study Plan between 2019 and 2021 (Appendix A). On May 27, 2021, DESC and stakeholders visited the Stevens Creek Project to discuss and view locations of potential recreation improvements (Appendix B). Information collected during the RUN study and presented in this report will help inform the possible need for additional recreation opportunities at the Stevens Creek Project.

This report was distributed to stakeholders for review and comment in June 2022. A complete consultation record, including a comment matrix that lists all substantial stakeholder comments and how DESC addressed these comments, is included in Appendix B.

## 2.0 METHODOLOGY

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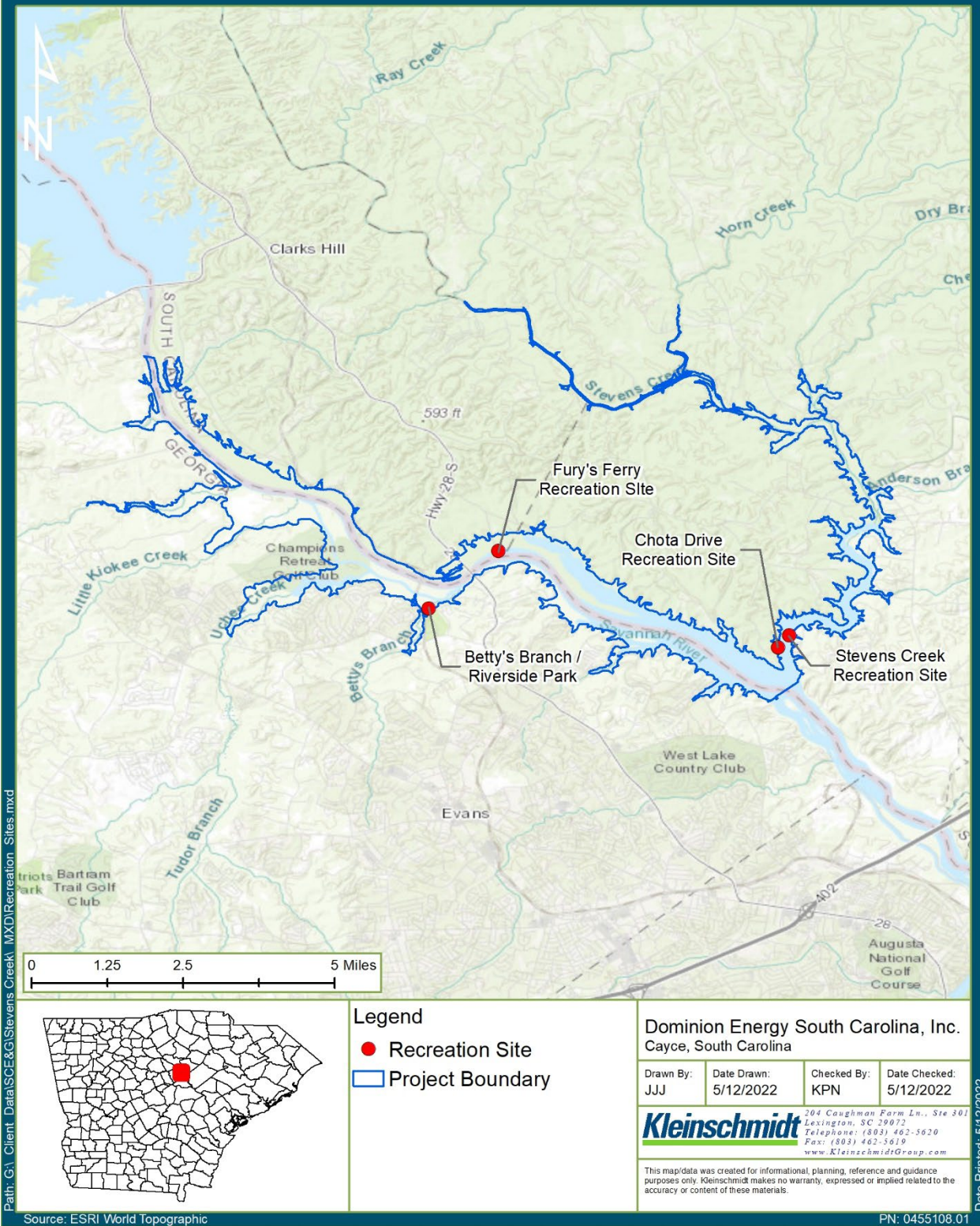
This section describes data collection and analysis efforts used for this study. Data collection focused on obtaining information related to existing public recreation sites and facilities owned by DESC and the USFS, estimating recreational use of those sites, learning recreation user perceptions, and determining site capacities. Analysis was performed to support study objectives, characterize existing and potential future recreational use at DESC's public access sites, and assess future requirements necessary to adequately support public recreational use of the Stevens Creek Project.

### 2.1 Study Area

Four recreation sites at the Stevens Creek Project were included in this assessment: Stevens Creek Recreation Site, Fury's Ferry Recreation Site, Chota Drive Recreation Site, and Betty's Branch/Riverside Park (Figure 2.1). Recreation sites are described in detail in the following sections.



# Stevens Creek Recreation Sites



**Figure 2.1 Stevens Creek Project Recreation Sites**



## 2.2 Study Season

Data were collected from April 1, 2021, through March 31, 2022. During this time, traffic counters were deployed at all four recreation sites to collect continuous traffic data for 1 year. Between October 1 and October 31, 2021, traffic counters were removed from the recreation sites for counter maintenance. During this time, traffic counts were estimated based on data from September and November of 2021. Recreation user surveys and spot counts were collected during the peak recreation season between April 1, 2021, and September 6, 2021 (Labor Day weekend).

## 2.3 Data Collection Methods

Primary and secondary data were used to meet the study objectives and goals. Primary recreation data were collected at the four recreation sites by several methods, including site inventory, spot counts, traffic counter data, and recreation user surveys. In accordance with the study plan, some methods were used periodically (Table 2.1).

**Table 2.1 Recreation Sites Assessed and Corresponding Data Collection Methodology**

Recreation Site	Site Inventory	Spot Count <sup>1</sup>	Traffic Counter Data	Recreation User Surveys <sup>2</sup>
Stevens Creek Recreation Site	*	*	*	*
Fury's Ferry Recreation Site	*	<i>Periodic</i>	*	<i>Periodic</i>
Chota Drive Recreation Site	*	<i>Periodic</i>	*	<i>Periodic</i>
Betty's Branch/Riverside Park	*	*	*	*

<sup>1</sup>Spot counts were administered at Fury's Ferry and Chota Drive during traffic counter data download events.

<sup>2</sup>In accordance with the study plan, recreation user surveys were to only be administered at Fury's Ferry and Chota Drive if recreation users were present during traffic counter data download events and willing to complete a survey. No surveys were collected at Fury's Ferry and Chota Drive.

Secondary data sources included the U.S. Bureau of Census data, the South Carolina Statewide Comprehensive Outdoor Recreation Plan (SCORP), South Carolina Recreation Participation and Preference Study, the USFS's Sustainable Recreation Strategy, U.S. Army Corps of Engineers (USACE) existing recreation data collected at the Thurmond Project, Columbia County existing recreation data collected at the Savannah Rapids Pavilion, and other relevant, readily available literature. Additional input was solicited from the RCG.

Table 2.2 summarizes the study objectives, information needed to meet these objectives, and sources for information. Sections 2.3.1 through 2.3.4 summarize the primary data collection methods.

**Table 2.2 Recreation Use and Needs Study Plan Objectives and Efforts**

Objectives	Information Needed	Source
<i>Goal 1: Characterize existing recreational use of project recreation sites</i>		
Goal 1a: Identify formal recreation sites, inventory the services and facilities offered at each, and assess the general condition and Americans with Disabilities Act (ADA) compliance of each site	<ul style="list-style-type: none"> <li>• Physical inventory of all facilities at each recreation site</li> <li>• General assessment of site condition to include maintenance, basic rehabilitation needs, etc.</li> <li>• Visitors' assessment of site conditions</li> <li>• Identification of activities that occur at each site</li> <li>• Barrier free/ADA compliance assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Recreation site inventory</li> <li>• Recreation user surveys</li> </ul>
Goal 1b: Identify the patterns of use at each site (type, volume, and daily patterns of use)	<ul style="list-style-type: none"> <li>• Use vehicle counts as an estimation of people</li> <li>• Estimate of # people/vehicle</li> <li>• Estimate of # vehicles/site</li> <li>• Parking capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic counter data</li> <li>• Spot count data</li> <li>• Recreation user surveys - # of people per vehicle and length of visit</li> <li>• Recreation site inventory - # of parking spaces</li> <li>• Columbia County/USFS data, if available</li> </ul>
Goal 1c: Assess existing recreation sites located on federal land for consistency with USFS Sustainable Recreation Strategy	<ul style="list-style-type: none"> <li>• Results from Goal 1a and Goal 1b for recreation sites located on federal land</li> </ul>	<ul style="list-style-type: none"> <li>• USFS input</li> <li>• USFS Sustainable Recreation Strategy</li> </ul>

Objectives	Information Needed	Source
<i>Goal 2: Identify future recreation needs at the Project</i>		
Goal 2a: Identify existing user needs and preferences, including perceptions of crowding at project recreation sites	<ul style="list-style-type: none"> <li>• User preferences and opinions of needs and crowding at sites</li> <li>• Condition assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Recreation user surveys</li> <li>• Recreation site inventory</li> </ul>
Goal 2b: Estimate future recreation use of existing project recreation sites	<ul style="list-style-type: none"> <li>• Inventory and use data</li> <li>• Population projections for the project area</li> <li>• Recreational use trends</li> </ul>	<ul style="list-style-type: none"> <li>• Results of goal 1</li> <li>• U.S. Bureau of Census data</li> <li>• SC Division of Research and Statistics (Budget and Control Board)</li> <li>• SCORP, SC Recreation Participation and Preference study, or other readily available literature</li> <li>• USACE recreation data from Thurmond Project</li> <li>• Columbia County recreation data for Savannah Rapids Pavilion</li> </ul>
Goal 2c: Identify future needs for new recreation sites and/or facilities	<ul style="list-style-type: none"> <li>• Estimate of future recreation use at the Project</li> <li>• Parking capacity at recreation sites vs. existing and projected use density</li> <li>• Condition/perception assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Results of goal 1a, 1b, 2a, and 2b</li> <li>• Columbia County, USFS, and RCG input on future needs</li> </ul>

### 2.3.1 Recreation Site Inventory

DESC completed a recreation site inventory at the four project recreation sites listed in Table 2.1. Information was collected on the type, number, and size of facilities (restrooms, parking areas, boat ramps, picnic shelters and tables, etc.) at each site. The general condition of each recreation facility was noted during the inventory. In addition, any facilities that are barrier free or Americans with Disabilities Act (ADA)-compliant were identified as such. Barrier free facilities and amenities are those that are designed or planned so that people with disabilities are not prevented from using them. A copy of the inventory form is provided as part of Appendix A. The information collected during the recreation site inventory is listed in Table 4.1.

### 2.3.2 Traffic Counts

DESC installed five traffic counters at the Stevens Creek recreation sites to record the number of vehicles that entered and exited (Table 2.3). One traffic counter (referred to throughout as "Riverside Park Parking Lot") was installed at Riverside Park along the road that connects the two large parking areas and a second traffic counter (referred to throughout as "Betty's Branch") was installed along the narrow access road connecting Riverside Park and Bettys Branch recreation site. The Riverside Park Parking Lot counter data were subtracted from the Betty's Branch counter data to determine how many vehicles used Riverside Park's large parking area near Betty's Branch.

Traffic counter data were collected for 1 year to assess use during the various seasons. Counters were installed on April 1, 2021 and removed April 1, 2022. Traffic counter data were downloaded biweekly to ensure the counters were working properly and archive data. The traffic counters did not collect data in October of 2021 due to counter maintenance. Traffic counts for October were extrapolated based on data collected during September and November of 2021.

**Table 2.3 GPS Locations for Traffic Counters**

Site name	Latitude	Longitude
Riverside Park Parking Lot	33.582410	-82.133151
Betty's Branch Recreation Site	33.583934	-82.133369
Choata Drive Recreation Site	33.574643	-82.050570
Fury's Ferry Recreation Site	33.599415	-82.117598
Stevens Creek Recreation Site	33.577714	-82.046599



Traffic counter data were used to determine recreation use at each site, which is reported in recreation days. A recreation day is defined by FERC as each visit by a person to a development for recreational purposes during any portion of a 24-hour period. Traffic counters tallied vehicles and not people. Based on survey information, it was estimated that each vehicle contained approximately 1.9 people. Recreation days were determined by multiplying each vehicle by 1.9. Recreation days are reported by month and by day type. Day types include weekdays, weekends, and peak weekends (or holiday weekends). Weekends identified as "peak weekends" during the 2021-2022 data collection period are listed in Table 2.4.

**Table 2.4 2021-2022 Peak Weekends**

Peak Weekends	Dates
Memorial Day	May 29-31, 2021
Independence Day	July 2-4, 2021
Labor Day	September 4-6, 2021
Columbus Day	October 9-11, 2021
Thanksgiving	November 26-28, 2021
Christmas	December 24-26, 2021
New Years	December 31, 2021, and January 1-2, 2022
Martin Luther King Day	January 15-17, 2022
Presidents' Day	February 19-21, 2022

Traffic counters were also used to determine average percent capacity at a recreation site by month and day type. To determine capacity using traffic counter data, the average number of total vehicles that used the access area on a specific day type was divided by the estimated turnover. Because traffic counter data only accounts for vehicles entering an access area, length of stay must be considered. Length of stay is the average amount of time (hours) a visitor spends at an access area per recreation visit. Length of stay information was determined during surveys. Length of stay is ultimately used to determine turnover at a site. Turnover is how often a vehicle leaves a site and is replaced over a 24-hour period. Turnover is applied to the average total vehicles, which is then compared to the total parking spaces available at the recreation site. The formula for determining percent capacity is shown below.

$$\left( \frac{\frac{\text{Total Average Vehicles}}{\text{Turnover}}}{\text{Available Parking Spaces}} \right) * 100$$

### 2.3.3 User Surveys

DESC conducted user surveys at project recreation sites according to the schedule shown in Table 2.5. In accordance with the study plan, surveys were periodically collected at Chota Drive Recreation Site and Fury's Ferry Recreation Site when staff were onsite to download traffic counter data. Surveys were administered to recreation users at the close of their recreation day. Data collected included user demographics, group size, the type of land-based and water-based recreation activities individuals participated in, length of stay, and perceptions of crowdedness and condition of recreation facilities at the Stevens Creek Project. Because there is a large Hispanic population in the project area, surveys were also available in Spanish. A copy of the survey in English is provided as part of Appendix A. The data were used to identify recreation use patterns and use estimates at project recreation sites. The data were also used to characterize user perceptions on crowdedness, which was considered during the future needs analysis.

Surveys were administered at the Stevens Creek Recreation Site and Betty's Branch during the peak recreation season between April 1 and Labor Day weekend of 2021. Each recreation site was sampled according to a schedule that included weekdays, weekends, and peak weekends (Table 2.5). The schedule was developed using a stratified random sampling method, with weekends being sampled at a greater rate than weekdays to account for the heavier use that typically occurs on these days. During each sampling day, field staff were onsite for a 4-hour shift collecting as many complete surveys as possible. The shifts occurred randomly throughout the day within the window of 8:00 AM to 8:00 PM. Shift start times were 8:00 AM to 12:00 PM for the morning shift, 12:00 PM to 4:00 PM for the afternoon shift, and 4:00 PM to 8:00 PM for the evening shift. Onsite staff were trained thoroughly as a means of quality control.

**Table 2.5 Survey Collection Schedule**

Location	Shift	Day	Day type
Stevens Creek	12:00 PM	Saturday, April 3, 2021	Weekend
Betty's Branch	4:00 PM	Wednesday, April 7, 2021	Weekday
Stevens Creek	12:00 PM	Thursday, April 8, 2021	Weekday
Stevens Creek	8:00 AM	Monday, April 12, 2021	Weekday
Betty's Branch	4:00 PM	Monday, April 12, 2021	Weekday
Stevens Creek	4:00 PM	Friday, April 16, 2021	Weekday
Betty's Branch	8:00 AM	Saturday, April 17, 2021	Weekend
Betty's Branch	4:00 PM	Wednesday, April 21, 2021	Weekday
Betty's Branch	8:00 AM	Thursday, April 22, 2021	Weekday

Location	Shift	Day	Day type
Betty's Branch	12:00 PM	Sunday, April 25, 2021	Weekend
Stevens Creek	4:00 PM	Tuesday, April 27, 2021	Weekday
Stevens Creek	4:00 PM	Saturday, May 1, 2021	Weekend
Betty's Branch	8:00 AM	Wednesday, May 5, 2021	Weekday
Stevens Creek	12:00 PM	Thursday, May 6, 2021	Weekday
Betty's Branch	4:00 PM	Saturday, May 8, 2021	Weekend
Stevens Creek	12:00 PM	Tuesday, May 11, 2021	Weekday
Betty's Branch	4:00 PM	Wednesday, May 12, 2021	Weekday
Stevens Creek	4:00 PM	Thursday, May 13, 2021	Weekday
Stevens Creek	4:00 PM	Sunday, May 16, 2021	Weekend
Betty's Branch	12:00 PM	Thursday, May 20, 2021	Weekday
Stevens Creek	8:00 AM	Friday, May 21, 2021	Weekday
Betty's Branch	8:00 AM	Wednesday, May 26, 2021	Weekday
Betty's Branch	8:00 AM	Sunday, May 30, 2021	Holiday
Stevens Creek	4:00 PM	Sunday, May 30, 2021	Holiday
Betty's Branch	4:00 PM	Saturday, June 5, 2021	Weekend
Stevens Creek	8:00 AM	Tuesday, June 8, 2021	Weekday
Stevens Creek	12:00 PM	Friday, June 11, 2021	Weekday
Betty's Branch	8:00 AM	Friday, June 11, 2021	Weekday
Betty's Branch	12:00 PM	Tuesday, June 15, 2021	Weekday
Stevens Creek	4:00 PM	Tuesday, June 15, 2021	Weekday
Betty's Branch	8:00 AM	Wednesday, June 16, 2021	Weekday
Betty's Branch	8:00 AM	Friday, June 18, 2021	Weekday
Betty's Branch	4:00 PM	Monday, June 21, 2021	Weekday
Stevens Creek	12:00 PM	Sunday, June 27, 2021	Weekend
Stevens Creek	4:00 PM	Wednesday, June 30, 2021	Weekday
Stevens Creek	4:00 PM	Wednesday, July 7, 2021	Weekday
Betty's Branch	4:00 PM	Saturday, July 10, 2021	Weekend
Betty's Branch	8:00 AM	Monday, July 12, 2021	Weekday
Bettys Branch	8:00 AM	Saturday, July 17, 2021	Weekend
Betty's Branch	4:00 PM	Monday, July 19, 2021	Weekday
Stevens Creek	8:00 AM	Tuesday, July 20, 2021	Weekday
Betty's Branch	12:00 PM	Tuesday, July 20, 2021	Weekday
Betty's Branch	12:00 PM	Saturday, July 24, 2021	Weekend
Stevens Creek	4:00 PM	Sunday, July 25, 2021	Weekend
Stevens Creek	12:00 PM	Wednesday, July 28, 2021	Weekday
Stevens Creek	8:00 AM	Saturday, July 31, 2021	Weekend
Betty's Branch	8:00 AM	Thursday, August 5, 2021	Weekday
Stevens Creek	4:00 PM	Friday, August 6, 2021	Weekday
Stevens Creek	4:00 PM	Sunday, August 15, 2021	Weekday
Betty's Branch	8:00 AM	Monday, August 16, 2021	Weekday
Stevens Creek	4:00 PM	Tuesday, August 17, 2021	Weekday
Stevens Creek	8:00 AM	Thursday, August 19, 2021	Weekday

Location	Shift	Day	Day type
Stevens Creek	8:00 AM	Saturday, August 21, 2021	Weekend
Betty's Branch	12:00 PM	Monday, August 23, 2021	Weekday
Betty's Branch	4:00 PM	Tuesday, August 24, 2021	Weekday
Stevens Creek	12:00 PM	Thursday, August 26, 2021	Weekday
Betty's Branch	8:00 AM	Monday, August 30, 2021	Weekday
Stevens Creek	12:00 PM	Monday, August 30, 2021	Weekday
Stevens Creek	12:00 PM	Saturday, September 4, 2021	Holiday
Betty's Branch	4:00 PM	Monday, September 6, 2021	Holiday

**2.3.4 Spot Counts**

According to the study plan, DESC completed spot counts at Project recreation sites once per sampling day, prior to the start of survey collection. Spot counts documented the number of vehicles present at a recreation site at one moment in time and other information, including: date, time, and weather; number of vehicles and vehicles with trailers at the recreation site; types of activities observed at the site; and state license plate data (Appendix A). Spot counts were only collected at Chota Drive Recreation Site and Fury's Ferry Recreation Site when field staff were onsite to download traffic counter data. Because traffic counters were installed at all recreation sites, spot counts were not necessary for estimating recreation use. Instead, spot counts provided insight into the types of activities that occurred at the sites and the ratio of vehicles versus vehicles with trailers at each site.

## 3.0 RECREATION RESOURCES

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### 3.1 Project Recreation Resources

#### 3.1.1 Stevens Creek Recreation Site

The Stevens Creek Recreation Site (Photo 3.1) is in North Augusta, South Carolina, on the Stevens Creek arm of Stevens Creek Reservoir. The site is owned and operated by DESC and includes a parking lot with space for six vehicles with trailers, one concrete boat launch, three picnic tables, and one unisex restroom.



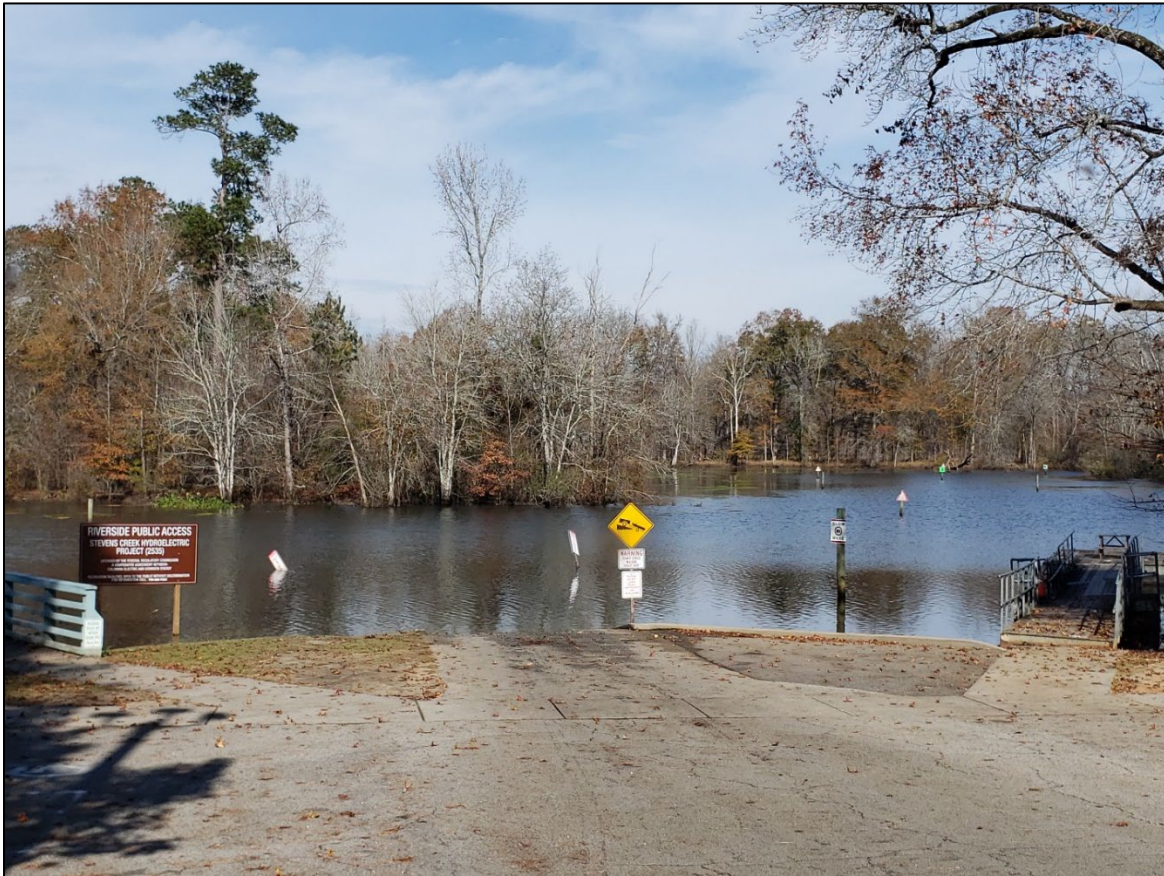
**Photo 3.1 Stevens Creek Recreation Site**

#### 3.1.2 Betty's Branch Recreation Site and Riverside Park

The Betty's Branch recreation site (Photo 3.2) is in Evans, Georgia, on Betty's Branch of the Little River, adjacent to the Georgia side of Stevens Creek Reservoir. Betty's Branch recreation site is managed by Columbia County, Georgia. This site is located at the north end of Riverside Park, which is also operated and maintained by Columbia County. This site has a small parking lot with four ADA parking spots, one concrete boat ramp, one



courtesy dock, one fishing pier, and two picnic tables. Adjacent to Betty's Branch recreation site is a large parking area associated with Riverside Park. Betty's Branch recreators that do not require ADA parking use the Riverside Park Parking Lot.



**Photo 3.2 Betty's Branch Recreation Site**

Riverside Park is a multi-use recreational facility. There is a men's and women's multi-stall restroom, a large parking lot, and a large picnic shelter near the Betty's Branch recreation site. The parking lot provides 67 parking spaces for vehicles (no trailers) and an additional seven ADA-accessible parking spaces. This parking lot is located adjacent to Betty's Branch recreation site and serves as the site's overflow parking. Therefore, this parking area was included in the recreation study and is referred to throughout the report as "Riverside Park Parking Lot." A kayak outfitter provides canoe and kayak rentals and guided tours at Riverside Park. Riverside Park also includes tennis courts, a beach volleyball court, eight baseball and softball fields, a large playground, and a dog park. A second large parking lot is near these amenities.



**Photo 3.3 Riverside Park Restrooms and Picnic Pavilion Near Betty's Branch Recreation Site**

### **3.1.3 Fury's Ferry Recreation Site**

Fury's Ferry Recreation Site (Photo 3.4) is in Clarks Hill, South Carolina, on the Savannah River arm of the Stevens Creek Reservoir. The site is owned, operated, and maintained by the USFS. This site has one concrete boat ramp, two picnic tables, and a gravel parking lot. The parking lot can hold approximately five vehicles with trailers or 11 without trailers.





**Photo 3.4 Fury's Ferry Recreation Area**

### **3.1.4 Chota Drive Recreation Site**

Chota Drive Recreation Site (Photo 3.5) is in Clarks Hill, South Carolina, on the Stevens Creek arm of the Stevens Creek Reservoir. Chota Drive Recreation Site is owned, operated, and maintained by the USFS. The site provides bank fishing access, non-motorized boat launch access, and a gravel parking area with space for approximately two vehicles.





**Photo 3.5 Chota Drive Recreation Area**

### 3.2 Regional Recreation Resources

In addition to recreational sites at the Stevens Creek Project, there are many recreation opportunities in the region. Table 3.1 lists recreation areas in Edgefield and McCormick counties, South Carolina, and Columbia County, Georgia.

**Table 3.1 Recreation Facilities Located Near the Project**

<b>Columbia County, GA</b>	<b>Edgefield County, SC</b>	<b>McCormick County, SC</b>
Blanchard Park	Baseball Complex	Cannady Ball Field
Blanchard Woods Park	Edgefield County Park at Bettis Academy	Clarks Hill Ball Field
Bobby Waters Gymnasium at Patriots Park	Edgefield Jaycee’s Park	Dorn Boating Facility
Euchee Creek Greenway Trails (Grovetown Section)	Jaycee’s Park	Thurmond Reservoir
Evans Towne Center Park	Johnston Elementary	Long Cane District, Sumter National Forest

Columbia County, GA	Edgefield County, SC	McCormick County, SC
Gateway Park	Long Cane District, Sumter National Forest	Mt. Carmel Ball Field
Goodale Park	Rail Trail	Parksville Wayside Park
Harlem Park	Soccer Complex	Plum Branch Ball Field
Heggie's Rock Preserve	Town Gym	Westowne Ball Field
International Disc Golf Center	Watson Park	
Lakeside Park		
Thurmond Reservoir		
Liberty Park and Community Center		
Lonnie Morris, Sr. Park		
Memorial Gardens Park		
Patriots Park		
Reed Creek Nature Park and Interpretive Center		
Riverside Park		
Savannah Rapids Park (Historical Canal Headgates and Savannah Rapids Pavilion)		
Wildwood Park		

### 3.2.1 Sumter National Forest, Long Cane District

Sumter National Forest has three ranger districts in South Carolina, including the Andrew Pickens, the Enoree, and the Long Cane districts. The Long Cane District is east of the Savannah River and Stevens Creek Reservoir and offers the public a variety of recreation opportunities, including the Fury's Ferry Recreation Site. The Long Cane and Highway 28 boat ramps, which provide access to the backwaters of J. Strom Thurmond Reservoir (Thurmond Reservoir), are among other recreation opportunities in the district. The Forks Area Trail System, in the southern portion of the Long Cane District along the South Carolina side of the Stevens Creek Reservoir, consists of six stacked recreation loops accessible from various locations that provide approximately 34 miles of hiking or biking through a variety of terrain. The Modoc Trail is in the southeastern portion of the Long Cane District along the upper reaches of Stevens Creek, outside of the Project boundary. The trail includes the 5.5-mile-long Modoc Trail and the 12-mile-long Wine-Turkey Trail (USDA 2022).



### 3.2.2 J. Strom Thurmond Reservoir

Thurmond Reservoir, known locally as Clarks Hill Lake, formed by Thurmond Dam on the Savannah River and owned and managed by USACE, is approximately 1 mile upstream of Stevens Creek Reservoir and provides a multitude of public recreation opportunities, including 15 campgrounds and day-use facilities. USACE maintains two recreation sites downstream of Thurmond Dam that provide access to the Thurmond Dam tailrace. One site is on the South Carolina side of the Savannah River (Photo 3.6) and the other is on the Georgia side (Photo 3.7). The South Carolina tailrace site has seven picnic pavilions, a playground, a concrete boat ramp, a fishing pier, and a restroom. The Georgia tailrace site has a restroom, a concrete boat ramp, and bank fishing access. These recreation sites are not associated with the Stevens Creek Project, but they do provide access to the Stevens Creek Reservoir.



**Photo 3.6 Thurmond Tailrace Recreation Site – South Carolina Side**



**Photo 3.7 Thurmond Tailrace Recreation Site – Georgia Side**

USACE collects annual visitation data for the tailrace sites. The South Carolina tailrace site receives approximately four times the use that the Georgia site receives (Table 3.2), likely because there are more developed recreational facilities. The South Carolina site received its highest use in July of 2021 and the Georgia site received its highest use in July of 2021, followed closely by October of 2020.

**Table 3.2 Visitors per Month at the Thurmond Dam Tailrace Recreation Sites – Fiscal Year 2021**

<b>Month</b>	<b>South Carolina Tailrace Site</b>	<b>Georgia Tailrace Site</b>
October 2020	4,896	1,529
November 2020	3,689	702
December 2020	3,917	917
January 2021	3,126	705
February 2021	3,745	821
March 2021	4,561	1,271
April 2021	4,743	1,370
May 2021	4,271	1,015
June 2021	4,481	453

<b>Month</b>	<b>South Carolina Tailrace Site</b>	<b>Georgia Tailrace Site</b>
July 2021	5,182	1,541
August 2021	3,491	983
September 2021	4,303	1,040
<b>Total</b>	<b>50,405</b>	<b>12,347</b>

Source: personal communication, C. Alford (Chief Ranger/COR, USACE) with K. Kirven (Recreational Specialist, Kleinschmidt), May 13, 2022.

## 4.0 RESULTS

### 4.1 Recreation Site Inventory

The four project recreation sites and the Riverside Park Parking Lot were inventoried during the study. The results of the inventory are summarized in Table 4.1.

**Table 4.1 Public Recreation Site Inventory Summary**

Site Name	\$ Fee	ADA Amenities <sup>1</sup>	Picnicking	# Shelters	# of Tables	# of Grills	Trails	Campgrounds	Swimming	Bank Fishing	Dock Fishing	# Ramps	# Docks	Parking Spaces	Restrooms	Playground and Sport Facilities	Owner
Stevens Creek Recreation Site	\$0	√	√	0	3	0	0	0	0	-	-	1	0	6	1	-	DESC
Fury's Ferry Recreation Site	\$0	-	√	0	2	0	0	0	0	√	-	1	0	8	0	-	USFS
Chota Drive Recreation Site	\$0	-	-	0	0	0	0	0	0	√	-	1	0	2	0	-	USFS
Betty's Branch	\$0	√	√	0	4	0	0	0	0	-	√	1	1	4	0	-	DESC
Riverside Park Parking Lot	\$0	√	√	1	5	0	0	0	0	-	-	0	0	74	6	√	Columbia County
<b>Totals</b>	<b>\$0</b>			<b>1</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>			<b>4</b>	<b>1</b>	<b>94</b>	<b>7</b>		

<sup>1</sup>Although a recreation site may not be entirely ADA-compliant, this column indicates that the facility provides some level of ADA-complaint amenities. ADA-compliant amenities at specific recreation sites are discussed further in Section 3.0.

## **4.2 Current Recreation Use**

Table 4.2 provides a summary of the recreation days that occurred at each recreation site by month and day type. Traffic counter data demonstrated that there were 100,213 visits, or recreation days, at the Stevens Creek recreational areas between April 2021 and March 2022. The Stevens Creek Recreation Site and Fury's Ferry Recreation Site received comparable use with approximately 11,723 recreation days and 12,813 recreation days, respectively. The least developed site, Chota Drive Recreation Site, received the lowest number of recreation days of all project recreation sites (approximately 1,600). Betty's Branch and Riverside Park Parking Lot, the most developed recreation area at the Stevens Creek Project, received the most recreation days with approximately 26,000 visitors to Betty's Branch and approximately 48,000 to the Riverside Park Parking Lot.



**Table 4.2 Estimated Recreation Days for Individual Project Recreation Sites**

Month, Day Type	Stevens Creek Recreation Site	Fury's Ferry Recreation Site <sup>1</sup>	Chota Drive Recreation Site	Riverside Park Parking Lot <sup>2</sup>	Betty's Branch Recreation Site	Total
<b>April 2021</b>						
Weekdays	950	608	60	1,036	3,928	6,582
Weekends	428	427	77	2,159	563	3,654
Holidays	----	----	----	----	----	---
<b>May 2021</b>						
Weekdays	828	543	154	2,151	2,764	6,440
Weekends	585	376	37	3,566	795	5,359
Holidays	218	197	17	1,590	237	2,259
<b>June 2021</b>						
Weekdays	701	583	118	3,589	2,539	7,530
Weekends	436	369	62	3,295	737	4,899
Holidays	----	----	----	----	----	
<b>July 2021</b>						
Weekdays	562	459	164	2,595	2,087	5,867
Weekends	291	318	33	2,240	314	3,196
Holidays	162	187	15	1,118	362	1,844
<b>August 2021</b>						
Weekdays	625	1,048	100	2,137	1,549	5,459
Weekends	344	396	33	2,689	443	3,905
Holidays	----	---	----		----	
<b>September 2021</b>						
Weekdays	471	742	81	2,003	1,216	4,513
Weekends	197	286	29	1,376	197	2,085
Holidays	98	135	12	778	162	1,185
<b>October 2021<sup>3</sup></b>						
Weekdays	488	674	79	2,216	889	4,346
Weekends	242	340	25	988	176	1,771
Holidays	76	132	12	229	151	600
<b>November 2021</b>						

Month, Day Type	Stevens Creek Recreation Site	Fury's Ferry Recreation Site <sup>1</sup>	Chota Drive Recreation Site	Riverside Park Parking Lot <sup>2</sup>	Betty's Branch Recreation Site	Total
Weekdays	500	698	67	2,016	627	3,908
Weekends	207	274	22	682	119	1,304
Holidays	83	108	14	152	167	524
<b>December 2021</b>						
Weekdays	488	721	62	1,554	606	3,431
Weekends	208	262	15	528	124	1,137
Holidays	125	195	14	296	92	722
<b>January 2022</b>						
Weekdays	374	681	60	1,321	848	3,284
Weekends	166	340	17	526	161	1,210
Holidays	124	193	33	355	125	830
<b>February 2022</b>						
Weekdays	502	384	71	1,167	1,095	3,219
Weekends	203	189	35	886	193	1,506
Holidays	114	85	14	372	113	698
<b>March 2022</b>						
Weekdays	571	579	42	1,391	1,935	4,518
Weekends	355	284	25	1,093	673	2,430
Holidays	----	----	----		----	
<b>Total</b>						
Weekdays	7,060	7,721	1,059	23,176	20,082	59,098
Weekends	3,663	3,860	410	20,027	4,494	32,454
Holidays	1,001	1,232	129	4,890	1,409	8,661
<b>TOTAL</b>	<b>11,723</b>	<b>12,813</b>	<b>1,598</b>	<b>48,093</b>	<b>25,986</b>	<b>100,213</b>

<sup>1</sup>The traffic counter at Fury's Ferry Recreation Site malfunctioned between May 13-24, 2021, and was stolen on September 9, resulting in a loss of data from September 9 – September 30. Data presented in the table for May and September were extrapolated based on data collected during the remainder of these months.

<sup>2</sup>The Riverside Park Parking Lot traffic counter malfunctioned resulting in lost data from May 13-24, 2021; data were extrapolated based on data collected during the remainder of May.

<sup>3</sup>Numbers were extrapolated from October 6, 2021, to November 11, 2021, due maintenance of all counters.

### 4.3 Recreation Site Use Density

Stevens Creek Project recreation sites are well used throughout the year and generally used within their design capacities. For this study, sites were considered to be used within their design capacity if parking areas were regularly less than 75 percent full. Use was considered to be approaching capacity if parking areas were regularly between 75 and 99 percent full. Use was considered to be exceeding capacity if parking areas were regularly greater than 99 percent full. High levels of use typically experienced on holidays are regarded as special circumstances, as these use levels are experienced only a few times per year. Recreation capacity is considered for typical weekday and non-peak weekend use in management and site design decisions.

Recreation site use density was calculated using the data collected by traffic counters (Table 4.3). The length of stay was determined based on information collected via surveys at Stevens Creek Recreation Site and Betty’s Branch recreation site. Length of stay was estimated to be 4 hours for Stevens Creek Recreation Site, Fury’s Ferry Recreation Site, Chota Drive Recreation Site, and the Riverside Park Parking Lot. Length of stay at Betty’s Branch was estimated to be 0.5 hours, because most vehicles entering the site were only there to unload kayaks, canoes, and motorboats. The vehicles using Betty’s Branch typically park in the Riverside Park Parking Lot.

All sites were generally within their design capacity on weekdays and non-peak weekends. The only site to exceed capacity was Stevens Creek Recreation Site. At this site on weekends and holidays during May, the parking area was calculated to be 105 percent full. Stevens Creek Recreation Site also approached capacity on non-peak weekends in April and June. Most sites received their highest use on non-peak weekends during the spring (March, April, May, and June) except for Betty’s Branch. Use was highest at Betty’s Branch on weekdays. All sites generally received the least use during the fall and winter (September, October, November, December, January, and February).

**Table 4.3 Recreation Site Average Capacity by Month and Day Type**

Month, Day Type	Stevens Creek Recreation Site	Fury’s Ferry Recreation Site <sup>1</sup>	Chota Drive Recreation Site	Betty’s Branch Recreation Site	Riverside Park Parking Lot
<b>April 2021</b>					
Weekdays	68%	33%	13%	48%	29%
Weekends	77%	58%	42%	19%	40%
Holidays	---	---	---	---	---

Month, Day Type	Stevens Creek Recreation Site	Fury's Ferry Recreation Site <sup>1</sup>	Chota Drive Recreation Site	Betty's Branch Recreation Site	Riverside Park Parking Lot
<b>May 2021</b>					
Weekdays	60%	29%	33%	37%	29%
Weekends	105%	51%	20%	27%	64%
Holidays	105%	71%	25%	21%	71%
<b>June 2021</b>					
Weekdays	46%	29%	23%	31%	33%
Weekends	78%	50%	33%	25%	59%
Holidays	---	---	---	---	---
<b>July 2021</b>					
Weekdays	40%	25%	35%	28%	27%
Weekends	60%	49%	20%	12%	43%
Holidays	58%	51%	17%	24%	43%
<b>August 2021</b>					
Weekdays	41%	51%	20%	19%	20%
Weekends	55%	47%	16%	13%	41%
Holidays	---	---	---	---	---
<b>September 2021</b>					
Weekdays	32%	38%	17%	16%	18%
Weekends	47%	51%	21%	9%	31%
Holidays	47%	49%	17%	15%	37%
<b>October 2021</b>					
Weekdays	35%	36%	17%	12%	18%
Weekends	44%	46%	14%	6%	17%
Holidays	37%	48%	17%	14%	15%
<b>November 2021</b>					
Weekdays	34%	36%	14%	8%	15%
Weekends	50%	49%	16%	5%	16%
Holidays	40%	39%	19%	15%	12%
<b>December 2021</b>					
Weekdays	33%	37%	13%	8%	12%
Weekends	50%	47%	11%	6%	13%
Holidays	45%	53%	15%	6%	11%
<b>January 2022</b>					
Weekdays	27%	37%	13%	11%	13%
Weekends	40%	61%	13%	7%	13%
Holidays	36%	42%	28%	7%	11%
<b>February 2022</b>					
Weekdays	38%	22%	16%	16%	14%
Weekends	49%	34%	25%	9%	21%
Holidays	55%	31%	19%	10%	19%
<b>March 2022</b>					
Weekdays	36%	27%	8%	25%	17%
Weekends	64%	38%	14%	23%	26%

Month, Day Type	Stevens Creek Recreation Site	Fury's Ferry Recreation Site <sup>1</sup>	Chota Drive Recreation Site	Betty's Branch Recreation Site	Riverside Park Parking Lot
Holidays	---	---	---	---	---
<b>Total</b>					
Average Capacity – Weekdays	41%	33%	18%	22%	20%
Average Capacity – Weekends	61%	48%	21%	14%	33%
Average Capacity – Holidays	51%	48%	20%	14%	26%

<sup>1</sup>The traffic counter for the Fury's Ferry Recreation Site malfunctioned and data were lost from May 13-24, 2021 and from September 9-30, 2021

<sup>2</sup>The Riverside Park Parking Lot traffic counter malfunctioned resulting in lost data from May 13-24, 2021.

#### 4.4 Estimated Future Recreation Use

Current population data were collected from the U.S. Census Bureau (2021) for the three counties and two states in which the Stevens Creek Project is located. Population projections through 2035 were also collected for these counties and states from the South Carolina Revenue and Fiscal Affairs Office (SCRFAO) and the Georgia Office of Planning and Budget (GAOPB) (Table 4.4). This information was used to determine estimated population growth for the Stevens Creek Project region. Populations are expected to increase in two of the three counties over the next 10 to 15 years, with a net growth when counties combined. However, the rate of growth is expected to slow over time. This mimics the population projections for Georgia and South Carolina.

**Table 4.4 Population Projections for the Counties and States in which the Stevens Creek Project is Located<sup>1</sup>**

County	2020 Census	2025 Projection	2030 Projection	2035 Projection
Columbia (GA)	156,010	176,146	192,137	207,330
Edgefield (SC)	25,657	27,370	27,475	27,425
McCormick (SC)	9,526	8,565	7,905	7,135
<b>Three-County Subtotal</b>	191,193	212,081	227,517	241,890
Percent Change	0.00%	<b>10.93%</b>	<b>7.28%</b>	<b>6.32%</b>
<b>Georgia</b>	10,711,908	11,335,283	11,979,787	12,496,324

<b>County</b>	<b>2020 Census</b>	<b>2025 Projection</b>	<b>2030 Projection</b>	<b>2035 Projection</b>
Percent Change	<b>0.00%</b>	<b>5.82%</b>	<b>5.69%</b>	<b>4.31%</b>
<b>South Carolina</b>	5,118,425	5,542,140	5,881,710	6,223,085
Percent Change	0.00%	<b>8.28%</b>	<b>6.13%</b>	<b>5.80%</b>

Source: GAOPB 2020, SCRFAO 2019, U.S. Census 2021

<sup>1</sup> Population projections are only available for South Carolina through 2035.

The population projections for the three-county region was applied to the estimated recreation days for the recreation sites and the project and the average non-peak weekend capacity for each recreation site. By 2035, the Stevens Creek Project is estimated to accumulate nearly 127,000 annual recreation days (Table 4.5). Estimated future average non-peak weekend capacities for all recreation sites are shown in Table 4.6. All sites are projected to remain below full capacity on non-peak weekends.



**Table 4.5 Estimated Future Recreation Days for the Stevens Creek Project, 2025-2035<sup>1</sup>**

Year	Population Growth Rates (3-County Subtotal)	Stevens Creek Recreation Site	Fury's Ferry Recreation Site	Chota Drive Recreation Site	Riverside Park Parking Lot	Betty's Branch Recreation Site	Recreation Days (All Project Recreation Sites)
2021	--	11,723	12,813	1,598	48,093	25,986	100,213
2025	10.93%	13,004	14,213	1,773	53,350	28,826	111,166
2030	7.28%	13,951	15,248	1,902	57,233	30,925	119,259
2035	6.32%	14,833	16,212	2,022	60,851	32,879	126,796

<sup>1</sup> Current population projections for South Carolina counties are only available through 2035.

**Table 4.6 Estimated Future Average Non-Peak Weekend Capacity at the Stevens Creek Project Recreation Sites**

Year	Population Growth Rates (3-County Subtotal)	Stevens Creek Recreation Site	Fury's Ferry Recreation Site	Chota Drive Recreation Site	Riverside Park Parking Lot	Betty's Branch Recreation Site
2021	--	61%	48%	21%	14%	33%
2025	10.93%	68%	54%	23%	16%	37%
2030	7.28%	73%	58%	25%	17%	40%
2035	6.32%	78%	61%	26%	18%	42%

## 4.5 User Surveys

DESC collected 295 surveys on 30 days at Stevens Creek Recreation Site and the Betty's Branch recreation site between April and early September 2021 (Table 4.7). Field staff attempted to collect surveys at Fury's Ferry and Chota Drive recreation sites when onsite to download traffic counter data; however, no surveys were completed due to low site use and unwillingness by recreators to complete surveys at these sites.

**Table 4.7 Surveys Completed**

Recreation Site	# of Surveys
Stevens Creek Recreation Site	81
Betty's Branch Recreation Site	214
<b>Total</b>	<b>295</b>

### 4.5.1 User Demographics and Characteristics

The average age of visitors at Stevens Creek Recreation Site was 52 and the average age of visitors at Betty's Branch was 40. Most visitors approached to complete a survey were over 18 years of age except for one visitor at Betty's Branch and two visitors at Stevens Creek Recreation Site. Visitors at Stevens Creek Recreation Site were primarily male (89 percent) while visitors at Betty's Branch were mixed between male (60 percent) and female (40 percent). Most visitors indicated their primary language was English; however, one visitor identified Japanese as their primary language and one visitor identified Spanish as their primary language.

Visitors to the Stevens Creek Project primarily listed Evans and Augusta, Georgia, and North Augusta, South Carolina as their hometowns (Table 4.8). While most visitors to the Stevens Creek Project were local, some visitors' hometowns were in North Carolina, Ohio, Illinois, Texas, Colorado, and Utah.

**Table 4.8 Home ZIP Codes of Recreationists at the Stevens Creek Recreation Sites**

ZIP Code	City	Percentage
30809	Evans, GA	21.60%
30907	Augusta, GA	15.30%
29841	North Augusta, SC	10.20%
30813	Grovetown, GA	8.90%
29860	North Augusta, SC	7.20%
30904	Augusta, GA	4.70%
30909	Augusta, GA	4.70%

<b>ZIP Code</b>	<b>City</b>	<b>Percentage</b>
29801	Aiken, SC	3.00%
29803	Aiken, SC	2.50%
29829	Graniteville, SC	1.70%
30815	Hephzibah, GA	1.70%
30906	Augusta, GA	1.70%
29847	Trenton, SC	1.30%
29842	Beech Island, SC	0.80%
30802	Appling, GA	0.80%
30830	Waynesboro, GA	0.80%
28088	Landis, NC	0.40%
28213	Charlotte, NC	0.40%
29072	Lexington, SC	0.40%
29078	Lugoff, SC	0.40%
29210	Columbia, SC	0.40%
29229	Columbia, SC	0.40%
29330	Cowpens, SC	0.40%
29615	Greenville, SC	0.40%
29824	Edgefield, SC	0.40%
29835	McCormick, SC	0.40%
29838	Modoc, SC	0.40%
30041	Cumming, GA	0.40%
30043	Lawrenceville, GA	0.40%
30052	Loganville, GA	0.40%
30107	Ball Ground, GA	0.40%
30135	Douglasville, GA	0.40%
30214	Fayetteville, GA	0.40%
30248	Locust Grove, GA	0.40%
30277	Sharpsburg, GA	0.40%
30305	Atlanta, GA	0.40%
30805	Blythe, GA	0.40%
30814	Harlem, GA	0.40%
30817	Lincolnton, GA	0.40%
31069	Perry, GA	0.40%
31901	Columbus, GA	0.40%
45206	Cincinnati, OH	0.40%
60608	Chicago, IL	0.40%
79912	El Paso, TX	0.40%
80203	Denver, CO	0.40%
84093	Sandy, UT	0.40%

When asked how many people were in their party, most visitors at Stevens Creek Recreation Site indicated they were recreating alone or with one other person. At Betty’s Branch, party size was typically larger. Party size at Betty’s Branch was most frequently reported as two, although parties of one, three, and four were also common. The average party size at Stevens Creek Recreation Site was 1.8 and the average party size at Betty’s Branch was 3.0.

Visitors were asked if they were at the Stevens Creek Project more, less, or about the same than the previous year. At Stevens Creek Recreation Site and Betty’s Branch combined, 53 percent of visitors indicated they had visited the Stevens Creek Project more often over the past year. Thirty-two percent and 15 percent of visitors indicated they frequented the Stevens Creek Project about the same or less over the past year, respectively.

Visitors were also asked what other lakes they commonly recreate in addition to Stevens Creek Reservoir. Thurmond Reservoir, also referred to as Clarks Hill, was the most noted lake. Other lakes commonly identified included Lake Murray, Lake Olmstead, Lake Oconee, Lake Hartwell, and Lake Greenwood. Visitors also noted other local recreation areas including Savannah Rapids Pavilion, the Augusta Canal, Phinizy Swamp, New Savannah Bluff Lock and Dam, and the Savannah River.

#### 4.5.2 Recreation Activities

Visitors were asked to list the primary recreation activity that they participated in on the day of the survey (Table 4.9). At Betty’s Branch recreation site, the most popular activity was canoeing/kayaking (71 percent) followed by boat fishing (12 percent) and paddleboarding (7 percent). At Stevens Creek Recreation Site, the most popular activity was boat fishing (77 percent) followed by canoeing/kayaking (9 percent).

**Table 4.9 Primary Activities at Project Recreation Sites**

<b>Activity</b>	<b>Betty’s Branch Recreation Site</b>	<b>Stevens Creek Recreation Site</b>
Canoeing/Kayaking	71%	9%
Boat Fishing	12%	77%
Paddleboarding	7%	2%
Pier/Dock Fishing	4%	0%
Bank Fishing	1%	7%
Motor Boating	2%	0%
Walking/Hiking/Backpacking	2%	0%

<b>Activity</b>	<b>Betty's Branch Recreation Site</b>	<b>Stevens Creek Recreation Site</b>
Nature Study/Wildlife Viewing/Photography	1%	4%
Picnicking	1%	2%
Sightseeing	1%	0%
Other	1%	0%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Visitors were also asked to list the other activities in which they participated, in addition to their primary activity, while at the Stevens Creek Project. At Betty's Branch, the most common secondary activities listed included canoeing/kayaking (25 percent), swimming (20 percent), paddleboarding (18 percent) and picnicking (11 percent). At Stevens Creek Recreation Site, the most common secondary activities listed included canoeing/kayaking (57 percent) and nature study/wildlife viewing/photography, sightseeing, and boat fishing (14 percent each).

If they were at the Stevens Creek Project to hunt or fish, visitors were asked to list their target species. No visitors indicated they were at the project to hunt. Fishermen most often listed their target species as bass, both largemouth and smallmouth (63 percent at Betty's Branch and 38 percent at Stevens Creek). Fishermen also noted they were fishing for species of sunfish (also known as bream or brim) (13 percent at Betty's Branch and 28 percent at Stevens Creek), black crappie (10 percent at Betty's Branch and 10 percent at Stevens Creek), redear sunfish (also known as shellcracker) (3 percent at Betty's Branch and 14 percent at Stevens Creek), catfish (7 percent at Betty's Branch and 5 percent at Stevens Creek) and bluegill (3 percent at Betty's Branch and 5 percent at Stevens Creek). Other species mentioned include yellow perch, and other species of black basses and pickerel.

Visitors were asked if they spent any time on the water when at the Stevens Creek Project. Nearly all visitors (92 percent) at both recreation sites indicated they did spend time on the water. Visitors were also asked if they recreated on or near any of the islands in the Stevens Creek Reservoir. Most visitors indicated they did not recreate on an island (84 percent), although some did (16 percent). Island recreation was most common when the island was accessed via Betty's Branch. Nineteen percent of visitors at Betty's Branch recreated on or near an island versus 8 percent at Stevens Creek Recreation Site. Common activities visitors participated in while on or near islands include picnicking, sightseeing,

swimming, walking/hiking, sunbathing, nature study/wildlife viewing/photography, and bank fishing.

### 4.5.3 Recreation User Perceptions

Visitors to the Stevens Creek Project were asked to rate their perception of the crowdedness at the recreation site they were visiting (Table 4.10). Betty’s Branch and Stevens Creek were both rated as being lightly crowded by 50 percent of visitors. Conversely, 5 percent of visitors at Betty’s Branch and 18 percent of visitors at Stevens Creek rated the sites as being heavily crowded. The average crowdedness rating at Betty’s Branch was 2.0, or light/moderate, and the average crowdedness rating at Stevens Creek was 2.43, or light/moderate to moderate.

**Table 4.10 Crowdedness Ratings for Stevens Creek Project Recreation Sites**

Crowdedness Rating	Betty’s Branch Recreation Site	Stevens Creek Recreation Site
1 – Light	50%	50%
2 – Light/Moderate	16%	2%
3 – Moderate	23%	21%
4 – Moderate/Heavy	6%	9%
5 – Heavy	5%	18%

Visitors to the Stevens Creek Project were asked to rate their perception of the condition of the recreation site they were visiting (Table 4.11). Most visitors rated the condition of Betty’s Branch as excellent (64 percent), followed by good (29 percent). Visitors at Stevens Creek Recreation Site equally rated the site as excellent (36 percent) and good (36 percent). The average condition rating at Betty’s Branch was 4.55, or good to excellent, and the average condition rating at Stevens Creek was 4.00, or good.

**Table 4.11 Condition Ratings for the Stevens Creek Project Recreation Sites**

Condition Rating	Betty’s Branch Recreation Site	Stevens Creek Recreation Site
1 – Poor	0%	2%
2 – Poor/Fair	1%	4%
3 – Fair	7%	23%
4 – Good	29%	36%
5 – Excellent	64%	36%



#### 4.5.4 Recreation Site Improvements

Visitors were asked if there were any additional facilities or improvements needed at the recreation sites. At Betty’s Branch, 67 percent of visitors indicated that no improvements were needed. Of the remaining 33 percent, most indicated improvements were needed to restrooms, the boat launch, the parking lot, the boat dock, and the picnic tables/shelter. At Stevens Creek, 18 percent of visitors indicated that no improvements were needed. The remaining 82 percent indicated that the boat launch, trash cans, and the restroom were most in need of improvements. Other frequently recommended improvements at Stevens Creek include parking lot, fishing pier/dock, picnic tables/shelter, and lighting.

In addition to the improvements listed in the survey, visitors had the opportunity to list any additional improvements they thought were necessary. Respondents indicated 57 areas for improvement (Table 4.12).

**Table 4.12 Additional Improvements Suggested at the Stevens Creek Project Recreation Sites**

No.	Additional Improvements
1	ADA-compliant kayak launch
2	air compressor
3	better boat launch for kayaks
4	bigger kayak launch
5	closer bathroom
6	closer parking to the water
7	cut grass
8	fix floating pier
9	grills
10	kayak and canoe launch
11	kayak launch that is not gravel
12	kayak launch with soft bedding
13	Make shoreline have less rocks for kayaks
14	make smaller watercraft launch easier on bare feet
15	Make something to guide you down the ramp
16	more grass
17	more parking
18	more places to stop along water
19	paper towels in the bathroom
20	partner with someone for a food truck here
21	porta potty by the rope swing
22	ramp needs to be extended
23	remove vegetation/weeds/logs in the water

No.	Additional Improvements
24	rinse hose
25	rope needs to be longer
26	soap dispenser in women's bathroom is broken
27	the water is too low, kayak launch
28	there needs to be dredging
29	water fountain
30	bathroom near water
31	build a shoot for kayaks
32	clear trees so that kayaks can launch away from boats
33	dock needs work
34	extend and widen the ramp
35	extend boat ramp
36	extend the boat ramp, trash cans
37	fix the road, more parking
38	improve the boat launch
39	improve the kayak ramp
40	Increase the water flow. They want some grills.
41	it was upstream both ways and they didn't like it
42	Kayak launch
43	Kayak launch, boat dock
44	Keep people off the boat dock
45	Make boat ramp longer, channel buoys to avoid the stumps,
46	make floating pier longer
47	More launching area
48	more non handicapped parking
49	more parking
50	open the bathroom
51	open the bathroom, trash cans
52	paint the parking lot lines darker, put a security camera down here, put a boat dock
53	provide bait and ice
54	raise water levels
55	remove trees that have fallen into the water
56	trim hedges for bank fishing, trash can
57	wider boat ramp, boat launch only for kayaks

Visitors were also asked if they wanted to provide any additional comments on the recreation site they were visiting. All comments received are listed in Table 4.13.

**Table 4.13 Additional Comments on Stevens Creek Project Recreation Sites**

No.	Additional Comments
1	add another boat ramp and extend the existing one. The boat dock needs fixing
2	appreciate you taking care of it
3	bring the water level up sooner in the day
4	continue the public access to the water tables
5	don't change anything
6	if it were possible to find out how low the water is before coming out, he would want that
7	it can get crowded with motorboats and kayaks putting in and taking out in the same place
8	it was great
9	it was really clean
10	keep the water flow down
11	keep the water level higher and reduce the amount of seaweed
12	likes Steven's creek
13	make sure that there are plenty of life jackets
14	needs a kayak launch with rollers and handles
15	paint the parking lot lines
16	people speed through the water on motorboats
17	thanks for having another public park
18	the boat ramp needs to be longer or the water needs to be higher.
19	the kayak launch needs more sand
20	the site needs traffic control
21	the stumps make it difficult to go out on the water
22	there needs to be a shuttle from downtown to the river. Do something similar to the passports where you get a stamp at
23	there needs to be access for canoes and kayaks at the dam and here
24	there needs to be more access to the other side of the dam
25	there needs to be more dnr presence and pfd checks
26	there needs to be more information about the current on the website or signs
27	there needs to be more policing on the water to keep people from littering at the sand bar
28	there needs to be more ramps and kayak launches. There needs to be a loop for cars to drive on while they wait to load a
29	they like that Outdoor Augusta is here
30	they want a 1pm cut off time for hunting
31	they want have free kayaks
32	they want someone to trim back the trees near the fishing dock
33	this is a camp. There are 17 kids and 5 counselors.

#### 4.5.5 Fury’s Ferry and Chota Drive Recreation Sites

In anticipation of low survey response at Fury’s Ferry and Chota Drive recreation sites, questions regarding these sites were incorporated into the surveys administered at Stevens Creek and Betty’s Branch. Visitors were asked if they ever recreate at Fury’s Ferry or Chota Drive recreation sites. Most that were interviewed at Betty’s Branch indicated they never recreate at Fury’s Ferry or Chota Drive (93 percent). Those that indicated they did recreate at these sites most often participated in boat fishing (33 percent) and kayaking/canoeing (27 percent) (Table 4.14). More often than those at Betty’s Branch, visitors interviewed at Stevens Creek Recreation Site indicated they sometimes recreate at Fury’s Ferry and Chota Drive recreation sites. The most common activity noted by these visitors was boat fishing (54 percent) (Table 4.14).

**Table 4.14 Activities Participated in at Fury’s Ferry and Chota Drive Recreation Sites as Noted by Betty’s Branch and Stevens Creek Recreation Site Visitors**

Activity	Respondents interviewed at the Betty’s Branch Recreation Site	Respondents interviewed at the Stevens Creek Recreation Site
Boat fishing	33%	54%
Kayaking/canoeing	27%	14%
Motor boating	7%	0%
Bank fishing	7%	14%
Walking/hiking	7%	0%
Hunting	7%	4%
Picnicking	7%	4%
Biking	7%	0%
Sightseeing	0%	7%
Nature study/wildlife viewing/photography	0%	4%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Visitors that indicated they recreated at Fury’s Ferry and/or Chota Drive were asked if they thought any additional facilities or improvements were needed at these sites. Forty-three percent of Fury’s Ferry and/or Chota Drive recreators indicated they did want additional facilities or improvements (Table 4.15). The most common suggestions were for a bathroom and increased security.

**Table 4.15 Suggested Facilities or Improvements for Fury’s Ferry and Chota Drive Recreation Sites**

<b>Suggested Facility/Improvement</b>	<b>Percent</b>
Improved Security	29%
Bathroom	18%
New Pavement/Improved Access Road	12%
Improve Boat Ramp at Fury’s Ferry	6%
Kayak Launch	6%
Lights	6%
More Picnic Tables	6%
Fix Bump in Boat Ramp	6%
Parking	6%
Trash Cans	6%
<b>Total</b>	<b>100%</b>

#### **4.5.6 Boating Access**

Visitors were asked if there were any additional recreation facilities or boating access provisions needed at the Stevens Creek Project. Seventy percent of visitors indicated they did not think additional facilities or boating access provisions were needed at the project. The remaining 30 percent identified a variety of additional facilities and boating access provisions (Table 4.16). Several visitors suggested additional access near Sportsman’s Corner on Stevens Creek or near the dam.

**Table 4.16 Suggested Additional Facilities or Boating Access Provisions at the Stevens Creek Project**

<b>Recommended Facilities/Boating Access</b>	<b>Percent</b>
a dock	4.5%
finish the dam	4.5%
more places just for canoes and kayaks	13.5%
near the dam	9.0%
near sportsman's corner	9.0%
on the Carolina side of Steven's creek	4.5%
near the dam. Somewhere that provides fuel for boats	4.5%
not in the main river	4.5%
on Georgia side near the dam	4.5%
a checkpoint	4.5%
above the bridge by sportsman's corner	4.5%

<b>Recommended Facilities/Boating Access</b>	<b>Percent</b>
between here (Stevens Creek Recreation Site) and sportsman's corner	4.5%
more piers	9.0%
one at deep step road (Hopewell Baptist church road)	4.5%
something similar outdoor augusta or remote water coolers along the waterway	4.5%
there are too many people here (Betty's Branch)	4.5%
less mud	4.5%
<b>Total</b>	<b>100.0%</b>

Visitors were asked how likely they would be to portage around Stevens Creek Dam if it were possible (Table 4.17). At Betty's Branch, 45 percent of visitors indicated they would be very likely to portage around Stevens Creek Dam and 23 percent would be very unlikely to portage. At Stevens Creek Recreation Site, 42 percent of visitors indicated they would be very likely to portage around Stevens Creek Dam and 38 percent would be very unlikely to portage. Overall, visitors to the Stevens Creek Dam indicated they would be very likely to portage around Stevens Creek Dam if possible (44 percent).

**Table 4.17 Likelihood of Visitors to Portage Around Stevens Creek Dam**

<b>Rating</b>	<b>Betty's Branch Recreation Site</b>	<b>Stevens Creek Recreation Site</b>	<b>Total</b>
1 – Very Unlikely	23%	38%	26%
2 – Somewhat Likely	6%	2%	5%
3 – Likely	10%	11%	11%
4 – Between Likely and Very Likely	16%	7%	14%
5 – Very Likely	45%	42%	44%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

#### **4.6 Spot Counts**

During spot counts, field staff noted the types of activities they observed at the recreation sites. At Betty's Branch, the most frequently observed activities were canoeing/kayaking and boat fishing, followed by pier fishing and paddleboarding. At Stevens Creek Recreation Site, the most frequently observed activities were boat fishing and canoeing/kayaking followed by bank fishing. At Fury's Ferry, the only activities observed were boat fishing and canoeing/kayaking. No activities were observed at Chota Drive Recreation Site.



Field staff also noted the number of vehicles with boat trailers, vehicles with canoe or kayak trailers, and vehicles without trailers in the recreation sites parking areas (Table 4.18). Overall, vehicles without trailers were most common at all sites except Stevens Creek Recreation Site, where vehicles with boat trailers were most common.

**Table 4.18 Trailered and Non-Trailered Vehicles at Stevens Creek Recreation Sites**

<b>Recreation Site</b>	<b>Vehicles with Boat Trailers</b>	<b>Vehicles with Canoe or Kayak Trailers</b>	<b>Vehicles without Trailers</b>	<b>Total</b>
Betty's Branch	137	93	746	<b>976</b>
Chota Drive	0	0	0	<b>0</b>
Fury's Ferry	2	1	7	<b>10</b>
Riverside Park Parking Lot	0	0	13	<b>13</b>
Stevens Creek	123	14	62	<b>199</b>
<b>Total</b>	<b>262</b>	<b>108</b>	<b>828</b>	<b>1,198</b>

## 5.0 CONCLUSIONS

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The objective of this study was to estimate current and future recreational use and identify recreational opportunities and needs at the Stevens Creek Project. This was accomplished by identifying and inventorying existing recreation facilities, identifying patterns of recreation use and user needs and preferences at each site, and estimating future recreational use and needs at the Stevens Creek Project. Study results are summarized in the following sections in the context of the overall study objectives and are intended to facilitate recreation planning and management discussions during relicensing.

### 5.1 Characterization of Existing Use

The Stevens Creek Project supported 100,213 recreation days between April 2021 and March 2022. The most visited recreation site was Betty's Branch, when combined with use of the Riverside Park Parking Lot. Stevens Creek Recreation Site had the highest average capacity during the study season on all three-day types. Correspondingly, Stevens Creek Recreation Site exceeded capacity on non-peak weekends and holidays in May 2021 and approached capacity on non-peak weekends in April and June 2021.

In addition to the Stevens Creek Project recreation sites, the public can access the Stevens Creek Reservoir via the two USACE-owned tailrace access areas in the Thurmond Dam tailrace. These sites combined received 62,752 visitors between October 2020 and September 2021. Many of these visitors likely recreated in the Stevens Creek Reservoir.

Visitors indicated their primary reason for visiting the Stevens Creek Project was to participate in boat fishing, canoeing, and kayaking. As such, most visitors indicated they spent time on the water. A small portion of visitors recreated on or near the islands in Stevens Creek Reservoir. Nearly half of all visitors indicated they would be very likely to portage around Stevens Creek Dam if it were possible.

Most visitors viewed the recreation sites as being lightly to moderately crowded. Most visitors rated the condition of the recreation sites as excellent or good. Some visitors suggested additional facilities or improvements at the recreation sites, including restrooms, boat launches, and trash cans.

Few visitors indicated they used the Fury's Ferry and Chota Drive recreation sites. The most frequently reported activity when visitors were at these sites was boat fishing. Visitors suggested increased security and improved access for these recreation sites.

## **5.2 Characterization of Future Use**

As described by Cordell et al. (2004), population growth in surrounding counties is a primary contributing factor to future use of recreation facilities. Zip code data indicates that most visitors to the Stevens Creek Project are local to the area. It is projected that the population of the surrounding counties will increase between 2021 and 2035, resulting in increased use of Stevens Creek Project recreation resources. However, site use density information and user perceptions of crowdedness indicate there is capacity for recreation use to increase at the recreation sites. In addition, the region offers many non-Project recreation opportunities that could offset increased recreation demand.

Recreation use at the Stevens Creek Recreation Site is currently near or above capacity during the spring fishing season (April through June). It is likely that use during the spring fishing season will increase over the term of the new license. Currently the recreation site can accommodate six vehicles with trailers. DESC is considering ways to maximize parking within the existing parking area at the Stevens Creek Recreation Site. DESC will also consult with Columbia County and the USFS on ways to enhance recreation facilities at the Betty's Branch and Fury's Ferry recreation sites. Results of this RUN study will be used to develop a RMP for the Stevens Creek Project.

## 6.0 REFERENCES

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## **APPENDIX A**

### **STEVENS CREEK RECREATION STUDY PLAN AND DATA COLLECTION FORMS**

# RECREATION STUDY PLAN

**STEVENS CREEK HYDROELECTRIC PROJECT  
(FERC No. 2535)**

*Prepared for:*

**Dominion Energy South Carolina, Inc.  
Cayce, South Carolina**

*Prepared by:*

**Kleinschmidt**

Lexington, South Carolina  
[www.KleinschmidtGroup.com](http://www.KleinschmidtGroup.com)

February 2021

RECREATION STUDY PLAN

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**RECREATION STUDY PLAN**  
**STEVENS CREEK HYDROELECTRIC PROJECT**  
**(FERC No. 2535)**

**DOMINION ENERGY SOUTH CAROLINA, INC.**

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## RECREATION STUDY PLAN

### STEVENS CREEK HYDROELECTRIC PROJECT (FERC No. 2535)

#### DOMINION ENERGY SOUTH CAROLINA, INC.

## 1.0 INTRODUCTION

---

Dominion Energy South Carolina, Inc. (DESC) is the licensee of the Stevens Creek Hydroelectric Project (FERC No. 2535) (Project). The Project, which has an installed capacity of 17.28 megawatts (MW), is located in Edgefield and McCormick counties, South Carolina and Columbia County, Georgia, at the confluence of Stevens Creek and the Savannah River. The Project's dam is located approximately one mile upstream of the Augusta Diversion Dam, and approximately 13 miles downstream of the J. Strom Thurmond Dam. The Project occupies approximately 104 acres of federal lands within the Sumter National Forest, with three existing Project recreation sites located on federal land and managed through agreement with the U.S. Forest Service (Forest Service).

## 2.0 PURPOSE OF THE STUDY

---

On November 22, 1995, FERC issued a 30-year license which is scheduled to expire on October 31, 2025. DESC intends to file an application for a new license with FERC on or before October 31, 2023. The Project is currently involved in a relicensing process which involves cooperation and collaboration between DESC, as licensee, and a variety of stakeholders including state and federal resource agencies, state and local government, non-governmental organizations (NGO), and interested individuals. DESC established a Recreation and Land Management Resource Conservation Group (RCG), with interested stakeholders to address Project issues related to recreation and land management. The RCG determined there was a need for a recreation study at the Project.

DESC is proposing to perform an assessment of existing and future recreational use, opportunities, and needs for the Project. The assessment is designed to provide information pertinent to the current and future availability and adequacy of DESC-owned and managed recreation sites, Forest Service owned and managed recreation sites, and Columbia County, Georgia owned and managed recreation sites at the Project. The overall study plan objective is to identify current and potential recreation opportunities, use, and needs at the Project by addressing the specific goals and objectives listed below. Results from the study will be used to develop a new Recreation Management Plan (RMP) for the Project.

Goal 1: *Characterize the existing use of recreation sites at the Project. This will be accomplished by meeting the following objectives:*

- i. Identify recreation sites; inventory the services and facilities offered; and assess the general condition of each site (including whether the site provides barrier free access).
- ii. Identify patterns of use at each site (type, volume, and daily patterns of use).
- iii. Assess existing recreation sites located on federal land for consistency with Forest Service Sustainable Recreation Strategy.

Goal 2: *Identify future needs relating to public recreation sites at the Project. This will be accomplished by meeting the following objectives:*

- i. Identify existing user needs and preferences, including perceptions of crowding at recreation sites.
- ii. Estimate future recreation use of existing recreation sites.
- iii. Identify future needs for new recreation sites and facilities.

### 3.0 STUDY AREA

---

Recreation sites at the Project that will be included in this study are listed in Table 3-1 and shown in Figure 3-1.

**TABLE 3-1 EXISTING PROJECT RECREATION SITES AT THE STEVENS CREEK PROJECT<sup>1</sup>**

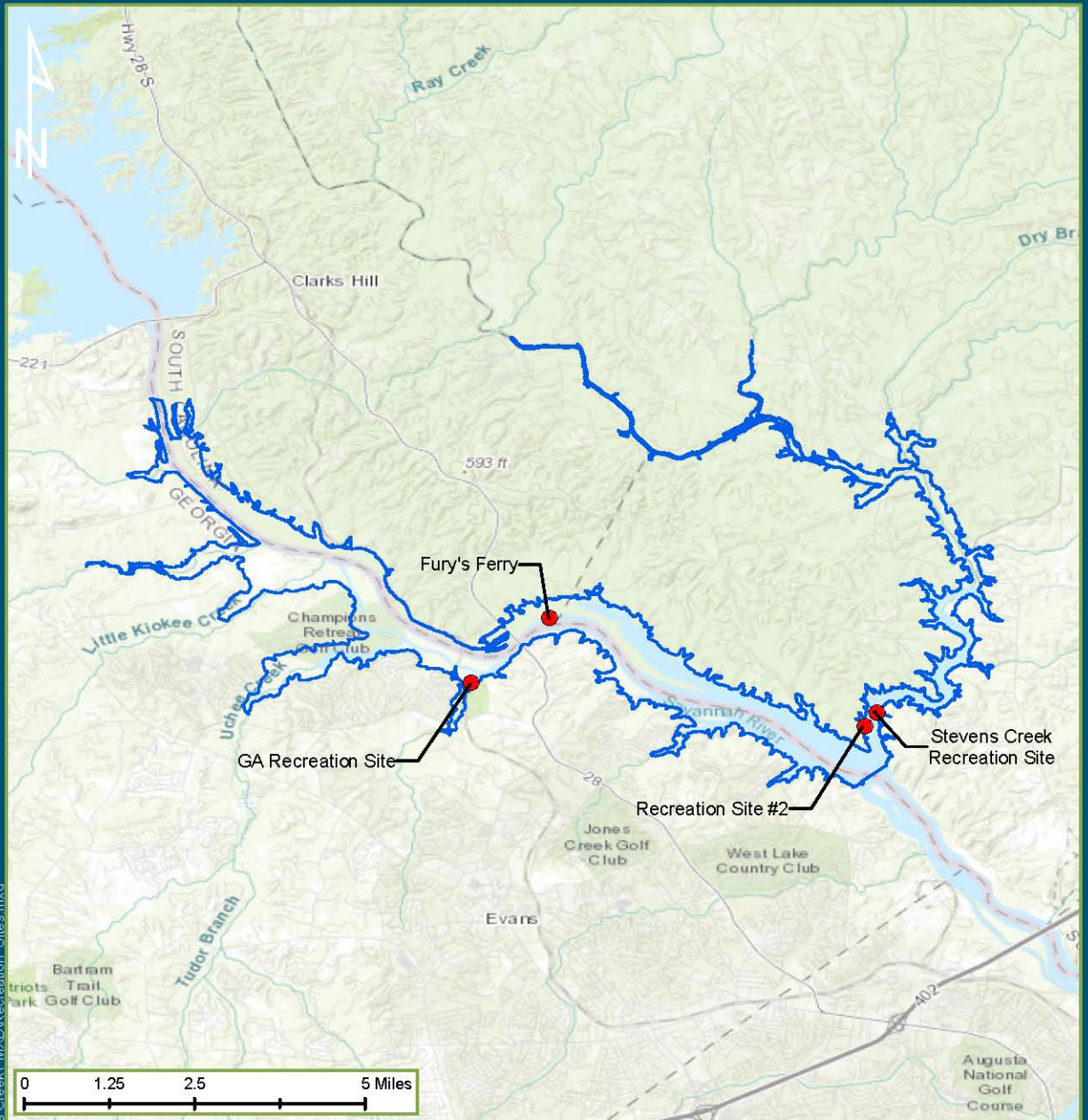
<b>RECREATION SITE NAME</b>	<b>RECREATION SITE NAME AS LISTED IN 2014 RECREATION PLAN</b>	<b>RECREATION SITE NAME AS LISTED IN 1995 PROJECT LICENSE/EXHIBIT G DRAWINGS</b>	<b>RECREATION SITE OWNER/MANAGER</b>
Stevens Creek Recreation Site	SC Recreation Site #1	Stevens Creek Recreation Site	DESC
Fury's Ferry Recreation Site	SC Recreation Site #2	Fury's Ferry Recreation Site	Forest Service
Chota Drive Recreation Site	SC Recreation Site #4	Recreation Site #2	Forest Service
Betty's Branch/Riverside Park	SC Recreation Site #5	GA Recreation Site	Columbia County, GA

Source: SCE&G 2014

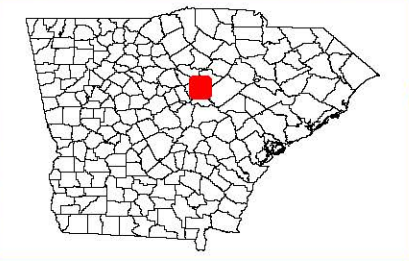
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<sup>1</sup> The 2014 Recreation Management Plan (RMP) includes an additional recreation site – Stevens Creek Recreation Site #3 (also known as Recreation Site #1 or the Mims Recreation Site). This site is located on Forest Service property and is maintained by the Forest Service. The Forest Service has decided that this recreation site is not in line with their Sustainable Recreation Strategy and will no longer be supported by the Forest Service. The Forest Service has asked that this site be removed from the RMP and therefore not be studied during relicensing.

# Stevens Creek Recreation Sites



Path: G:\Client\_Data\SC&G\Stevens\_Creek\_MXD\Recreation\_Sites.mxd



**Legend**

- Rec Sites
- ▭ Project Boundary

Dominion Energy South Carolina, Inc.  
Cayce, South Carolina

Drawn By: JJJ	Date Drawn: 10/3/2019	Checked By: KPN	Date Checked: 2/25/2019
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Source: ESRI World Topographic

PN: 0455.103.01

Date Printed: 10/3/2019

**FIGURE 3-1 STEVENS CREEK PROJECT RECREATION SITES**

## 4.0 STUDY SEASON

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Generally, the study season will last for one year, beginning on April 1, 2021 and ending on March 31, 2022. During this time, traffic counters will be deployed at all four recreation sites, collecting continuous data for one full year. Within this general study season, recreation user surveys and spot counts will be collected during the peak recreation season, from April 1, 2021 through Labor Day weekend or September 6, 2021.

## 5.0 DATA COLLECTION METHODS

---

A variety of data collection techniques will be used to obtain the information necessary to meet the study objectives and goals listed in Section 2.0. Both primary and secondary data will be collected. Primary data will entail site inventories, spot counts, traffic counter data, and recreation user surveys. Primary data will be collected at each site as shown in Table 5-1.

**TABLE 5-1 DATA COLLECTION METHODS AT STEVENS CREEK RECREATION SITES**

RECREATION SITE	DATA COLLECTION METHOD			
	SITE INVENTORY	SPOT COUNT <sup>2</sup>	TRAFFIC COUNTER DATA	RECREATION USER SURVEYS <sup>3</sup>
Stevens Creek Recreation Site	*	*	*	*
Fury's Ferry Recreation Site	*	<i>Periodic</i>	*	<i>Periodic</i>
Chota Drive Recreation Site	*	<i>Periodic</i>	*	<i>Periodic</i>
Betty's Branch/ Riverside Park	*	*	*	*

Secondary data will include U.S. Bureau of Census data, the South Carolina Statewide Comprehensive Outdoor Recreation Plan (SCORP), SC Recreation Participation & Preference Study, US Army Corps of Engineers (USACE) existing recreation data collected at the J. Strom

<sup>2</sup> Spot counts will be administered at Fury's Ferry and Chota Drive during traffic counter data download events.

<sup>3</sup> Recreation user surveys will be administered at Fury's Ferry and Chota Drive if recreation users are present during traffic counter data download events.



Thurmond (Thurmond) Project, and other relevant, readily available literature. Additional input will be solicited from the RCG, Columbia County, and Forest Service. Table 5-2 summarizes the study objectives, information needed to meet these objectives, and sources for information. Sections 5.1 through 5.4 summarize the primary data collection methods.

**TABLE 5-2 RECREATION USE AND NEEDS STUDY PLAN OBJECTIVES AND EFFORTS**

OBJECTIVES	INFORMATION NEEDED	SOURCE
<i>Goal 1: Characterize existing recreational use of Project recreation sites</i>		
Goal 1a: Identify formal recreation sites, inventory the services and facilities offered at each, and assess the general condition and ADA compliance of each site	<ul style="list-style-type: none"> <li>• Physical inventory of all facilities at each recreation site</li> <li>• General assessment of site condition to include maintenance, basic rehabilitation needs, etc.</li> <li>• Visitors’ assessment of site conditions</li> <li>• Identification of activities that occur at each site</li> <li>• Barrier free/ADA compliance assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Recreation Site Inventory</li> <li>• Recreation User Surveys</li> </ul>
Goal 1b: Identify the patterns of use at each site (type, volume, and daily patterns of use)	<ul style="list-style-type: none"> <li>• Utilize vehicle counts as an estimation of people</li> <li>• Estimate of # people/vehicle</li> <li>• Estimate of # vehicles/site</li> <li>• Parking capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic Counter Data</li> <li>• Spot Count Data</li> <li>• Recreation User Surveys - # of people per vehicle and length of visit</li> <li>• Recreation Site Inventory - # of parking spaces</li> <li>• Columbia County/Forest Service data, if available</li> </ul>
Goal 1c: Assess existing recreation sites located on federal land for consistency with Forest Service Sustainable Recreation Strategy.	<ul style="list-style-type: none"> <li>• Results from Goal 1a and Goal 1b for recreation sites located on federal land</li> </ul>	<ul style="list-style-type: none"> <li>• Forest Service input</li> <li>• Forest Service Sustainable Recreation Strategy</li> </ul>

OBJECTIVES	INFORMATION NEEDED	SOURCE
<i>Goal 2: Identify future recreational needs at the Project</i>		
Goal 2a: Identify existing user needs and preferences, including perceptions of crowding at Project recreation sites	<ul style="list-style-type: none"> <li>• User preferences and opinions of needs and crowding at sites</li> <li>• Condition assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Recreation User Surveys</li> <li>• Recreation Site Inventory</li> </ul>

OBJECTIVES	INFORMATION NEEDED	SOURCE
Goal 2b: Estimate future recreation use of existing Project recreation sites	<ul style="list-style-type: none"> <li>• Inventory and use data</li> <li>• Population projections for the project area</li> <li>• Recreational use trends</li> </ul>	<ul style="list-style-type: none"> <li>• Results of Goal 1</li> <li>• U.S. Bureau of Census Data</li> <li>• SC Division of Research &amp; Statistics (Budget and Control Board)</li> <li>• SCORP, SC Recreation Participation &amp; Preference Study, or other readily available literature</li> <li>• USACE recreation data from Thurmond Project</li> </ul>
Goal 2c: Identify future needs for new recreation sites and/or facilities	<ul style="list-style-type: none"> <li>• Estimate of future recreation use at the Project</li> <li>• Parking capacity at recreation sites vs. existing and projected use density</li> <li>• Condition/perception assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Results of Goal 1a, 1b, 2a, 2b,</li> <li>• Columbia County, USFS, and RCG input on future needs</li> </ul>

## **5.1 RECREATION SITE INVENTORY**

Prior to completion of a recreation site inventory, GPS points and land area of each recreation site will be collected and recorded. Then a recreation site inventory will be completed for each recreation site included in Table 3-1. A site visit will be made to collect data on the type, number, and size of facilities (restrooms, parking areas, boat ramps, picnic shelters and tables, etc.) located at each site. The general condition of all recreation facilities will be noted during the inventory. In addition, any facilities that qualify as barrier free will be identified as such. A copy of the inventory form is provided in Appendix A.

Upon completion of the inventory, all data will be uploaded into an Excel database. The database will be structured so that it can be used in a variety of formats (brochure, maps, web pages, etc.) and can be updated as recreation sites are modified, added, or changed in any way.

## **5.2 TRAFFIC COUNTS**

Traffic counters will be installed at all recreation sites included in Table 3-1 to record the number of vehicles that enter and exit the public recreation areas. Traffic count data will be collected for one year in order to capture use during the various seasons. Counters will be installed by April 1, 2021 and will collect data through March 31, 2022. Traffic counter data will be downloaded from the counter at a minimum of twice per month to ensure the counter is working properly and to minimize the potential for lost data.

## **5.3 RECREATION USER SURVEYS**

The preferences and perceptions of people using Project recreation sites weigh heavily into the determination of need for recreation site improvements and/or new recreation sites. Information from recreation site users will be collected through on-site surveys. Surveys will be conducted at recreation sites as shown in Table 5-1. Surveys may be collected at Chota Drive Recreation Site and Fury's Ferry Recreation Site when traffic counter data is downloaded. However, a recreation clerk will not be stationed at these sites.

Surveys will be administered to recreation site users at the close of their recreation day<sup>4</sup>. Data collected will include user demographics, group size, the type of land-based and water-based recreation activities individuals are participating in, length of stay, and perceptions of crowdedness and condition of recreation facilities at the Project. The data collected will be used to identify recreation use patterns and use estimates at the recreation sites. The data will also characterize user perceptions on crowdedness, which will be considered during the future needs analysis. Due to a large Hispanic population in the Project area, surveys will also be available in Spanish, and administered to those recreators that indicate Spanish as their primary language.

The survey will be pre-tested in the field prior to implementation and revisions will be incorporated, as necessary. If any significant revisions to the survey or study protocol are deemed necessary following field pre-testing, the RCG will be notified. A copy of the survey is provided in Appendix B.

Surveys will be administered during the peak recreation season from April 1 through Labor Day weekend, 2021. Each recreation site will be sampled according to a sampling plan that will be prepared in consultation with the RCG. Sampling days will include weekdays, weekends and peak use weekends<sup>5</sup>. The sampling plan will be developed using a stratified random sampling method, with weekends being sampled at a greater rate than weekdays to account for the heavier use that typically occurs on these days. During each sampling day, survey clerks will be on-site for a four-hour shift, collecting as many complete surveys as possible. The shifts will occur randomly throughout the day within the window of 7:00 AM to 8:00 PM. Shift start times will be listed in the sampling plan.

All survey clerks will be trained thoroughly as a means of quality control. Survey clerks will be provided with detailed information on the study schedule, appropriate materials to aid in data collection, and direction on appropriate interviewing techniques and attire. Interviewers will also be provided with an incentive for survey respondents to complete the survey.

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<sup>4</sup> FERC defines a recreation day as a visit by a person to a development for recreational purposes during any portion of a 24-hour period.

<sup>5</sup> FERC defined peak use weekends as weekends when recreation use is at its peak for the season (typically Memorial Day, Independence Day and Labor Day). All three days in a holiday weekend should be included.

## **5.4 SPOT COUNTS**

Spot counts will be conducted at the recreation sites listed in Table 3-1 once per sampling day, prior to the start of survey collection. Spot counts will document the number of vehicles present at a recreation site at one moment in time. Information recorded during spot counts will include: date, time, and weather; number of vehicles and vehicles with trailer at recreation site; type of activities observed at the site; and state license plate data (Appendix C). Spot count data will be used in parallel with traffic counter data. Spot counts will only be collected at Chota Drive Recreation Site and Fury's Ferry Recreation Site when traffic counter data is downloaded. However, a recreation clerk will not be stationed at these sites.

## **6.0 ANALYSIS**

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The following sections provide a description of the approach for estimating existing and future recreational use, recreation site capacity and use density percentages, and future recreation needs.

### **6.1 CURRENT RECREATION USE ESTIMATES**

The reported estimates of recreation will be presented in "recreation days". The FERC defines a recreation day as one visit by a person to a development for purposes of recreation during any 24-hour period. The weekday, weekend, and peak weekend average recreation days will be calculated for each recreation site utilizing the traffic counters and recreation site survey data. The average number of people at each site within the morning and afternoon periods will be estimated within each day type and converted to a daily estimate. Daily estimates for each day type will be expanded to represent the study period and summed for a total estimate for each recreation site.

### **6.2 FUTURE RECREATION USE ESTIMATES**

Estimated projections of future recreation use at the Project will be developed using the average annual increase in population growth over the past 10 years, as reported by the Census Bureau or the State Division of Research and Statistics, for Edgefield and McCormick counties, SC and



Columbia County, GA. The estimates will be augmented with discussion of trends reported in the SCORP (2014) and the SC Recreation Participation & Preference Study (2005). Estimated projections will be provided in 5-year intervals for the anticipated term of the license up to 50 years into the future (through year 2075).

While it is acknowledged that future changes in the supply of recreation resources, either in their quantity, accessibility, and/or quality may influence future demand and use, the demand analysis undertaken for this study does not attempt to predict what these future changes might consist of or how they might specifically affect levels of use at Project facilities. Therefore, the demand analysis results should be viewed as a general guide of potential future recreation pressure developed for planning purposes only.

### **6.3 RECREATION SITE CAPACITY**

For purposes of this study, the carrying capacity for a recreation site is defined as the number of vehicles and boat trailers that can be parked at a recreation site at one time, based on the number of available parking spaces associated with each site. For paved parking areas, this will be achieved by counting the number of designated parking spaces available at the recreation site. For gravel parking areas, the number of available parking spaces for each recreation site will be estimated by measuring the area (sq ft) available for parking and estimating the number of vehicles that could be parked at the location, if optimal space were utilized. These estimates will be based on parking capacity standards for vehicle length, width, and available turn around space.

### **6.4 RECREATION SITE USE DENSITY**

The use density of recreation sites will be estimated by comparing the average observed number of vehicles at the sites on sampled weekday, weekend, and peak weekend days with the available parking capacity for each recreation site. The average observed number of vehicles divided by the parking capacity will provide an estimated use density for each site. The average number of vehicles at the site will be determined using spot count and traffic counter data.

## 6.5 RECREATION NEEDS ASSESSMENT

The need for recreation and site development or modification of existing recreation resources will be assessed based on the inventory, condition assessment results, parking capacity and use density assessment results, user survey results, and Forest Service consultation. The needs assessment will focus on the existing condition and user opinions of recreation sites, the presence of "barrier free" facilities at recreation sites, and the ability of sites to meet current and anticipated future recreation demand. Consideration will also be given to site opportunities and constraints, as well as support facilities such as signage and maintenance. The need for new recreation sites and/or facilities will be determined through assessment of the information collected and the input of stakeholders through the RCG and the Forest Service.

## 7.0 SCHEDULE

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The proposed schedule for completion of the Recreation Use and Needs Study is as follows:

TASK	DATE
Mobilization for field work (includes field clerk hiring, training, etc.)	March 2021
User survey pre-testing	March 2021
Installation of traffic counters	April 1, 2021
Traffic counter data collection	April 1, 2021 – March 31, 2022
User survey collection	April 1 - September 6, 2021
Preliminary data entry, cleaning, and processing	October 2021
Conduct analyses	April-May 2022
Submit draft report	July 2022
Determine if additional data collection is needed	July 2022 <sup>6</sup>
Finalize report	August 2022

## 8.0 REFERENCES

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Federal Energy Regulatory Commission (FERC). 2018. 18 CFR Parts 8 and 141: Elimination of Form 80 and Revision of Regulations on Recreational Opportunities and Development at Licensed Hydropower Projects. Issued December 20, 2018.

South Carolina Electric & Gas Company (SCE&G). 2014. Revised Recreation Plan: Stevens Creek Hydroelectric Project, FERC Project No. 2535. January 2014.

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<sup>6</sup> If additional data collection is required, data collection methods, results and analyses will be developed and assessed in cooperation with the RCG and will be provided in an addendum to the report.

**APPENDIX A**

**SITE INVENTORY FORM**

DOMINION ENERGY SOUTH CAROLINA, INC.

RECREATION STUDY

STEVENS CREEK HYDROELECTRIC PROJECT

(FERC NO. 2535)

Recreation Site Inventory Form

Inspector: \_\_\_\_\_

Date: \_\_\_\_\_

Site Name: \_\_\_\_\_

Site Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Road Access:

	Paved	Unpaved/Gravel
Road Access		

Parking:

	Paved	Unpaved/Gravel
Vehicle Spaces		
Vehicle with Trailer Spaces		
ADA/Barrier Free Spaces		

Restrooms:

	Flush Toilets	Vault Toilets	Portable Toilets	ADA/Barrier Free
Women				
Men				
Unisex				

Boat Launches (# of lanes):

	Hard Surface (concrete/paved)	Gravel	Informal
Trailer Launch			
Carry-In			

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**Docks:**

	# of Docks	ADA/Barrier Free
Courtesy Dock		
Fishing Dock/Pier		

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**Camping:**

	# of Sites	ADA/Barrier Free
RV Sites		
Cabins		
Tent Sites		
Primitive Sites		

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**Operations (circle the one that applies):**

Manning	Manned	Unmanned
Availability	Seasonal	Year Round
Fees	Yes	No

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**Amenities:**

	Yes	No	Additional Information
Marina			
Whitewater Boating			
Portage			
Tailwater Fishing			
Reservoir Fishing			
Swim Area			
Trails			
Active Recreation Area			
Picnic Area			
Overlook/Vista			



	Yes	No	Additional Information
Interpretive Display (Signage/Kiosk/Billboard)			
Hunting Area			
Trash Cans			
Other			

**APPENDIX B**

**RECREATION USER SURVEY**



Check only <u>one</u> main activity	Check all other activities	Types of Activities
<input type="checkbox"/>	<input type="checkbox"/>	<b>bicycling</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>diving/SCUBA</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>tent or vehicle camping</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>horseback riding</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>walking/hiking/backpacking</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>sightseeing</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>hunting</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>nature study/wildlife viewing/photography</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>swimming</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>picnicking</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>sunbathing</b>
<input type="checkbox"/>	<input type="checkbox"/>	<b>other: _____</b>
	<input type="checkbox"/>	<b>None</b>

5. If you are hunting or fishing today, what is/are your target species? *(List all that are stated.)*

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6. Did you spend any time on the water today? *(Check one box.)*

- YES  
 NO *(If no, skip to Question 8.)*

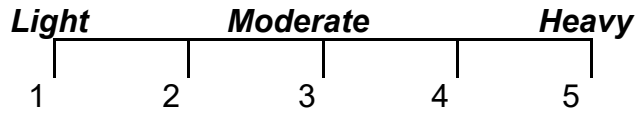
7A. Did you recreate on or near any of the islands today?

- YES  
 NO *(If no, skip to Question 8.)*

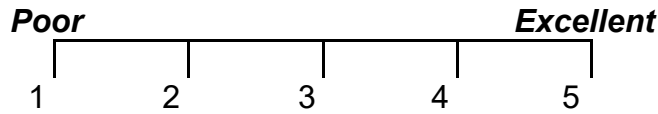
7B. What activities did you participate in **while on/near the island(s)**? *(Do not read this list. Allow respondent to answer and check all that apply and/or fill in the blanks.)*

<input type="checkbox"/> sunbathing	<input type="checkbox"/> bank fishing	<input type="checkbox"/> hunting
<input type="checkbox"/> camping	<input type="checkbox"/> walking/hiking	<input type="checkbox"/> sightseeing
<input type="checkbox"/> nature study/wildlife viewing/photography	<input type="checkbox"/> swimming	<input type="checkbox"/> picnicking
<input type="checkbox"/> other (please specify: _____)		

8. On a scale from 1 to 5, with 1 being light, 3 being moderate, and 5 being heavy, how would you rate the crowdedness **at this recreation site** today? *(Circle one number.)*



9A. On a scale from 1 to 5, with 1 being poor and 5 being excellent, how would you rate the overall condition **of this recreation site** today? (Circle one number.)



9B. Are there any additional facilities/improvements needed **at this recreation site**? (Check one box.)

- YES
- NO (If no, skip to Question 9.)

9C. What do you recommend? (Do not read this list. Allow respondent to answer and check all that apply and/or fill in the blanks.)

<input type="checkbox"/> access road	<input type="checkbox"/> bank fishing area	<input type="checkbox"/> boat dock
<input type="checkbox"/> boat launch	<input type="checkbox"/> camping area	<input type="checkbox"/> fish cleaning station
<input type="checkbox"/> fishing pier/dock	<input type="checkbox"/> lighting	<input type="checkbox"/> parking lot
<input type="checkbox"/> picnic tables/shelter	<input type="checkbox"/> restrooms	<input type="checkbox"/> signs & information
<input type="checkbox"/> swimming area	<input type="checkbox"/> trails	<input type="checkbox"/> trash cans
<input type="checkbox"/> RV camping	<input type="checkbox"/> tent camping	<input type="checkbox"/> bilingual signs & information
<input type="checkbox"/> other (please specify: _____)		

9D. Are there any other improvements that you would recommend **for this site**?

- YES
- NO (If no, skip to Question 10.)

9E. What improvements do you recommend? (Fill in the blank.)

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10A. Do you ever recreate **at Fury's Ferry or Chota Drive** recreation sites? (Check one box.)

- YES
- NO (If no, skip to Question 11.)

10B. What activities have you participated in **while at Fury's Ferry or Chota Drive**? (Do not read this list. Allow respondent to answer and check all that apply and/or fill in the blanks.)

<input type="checkbox"/> sunbathing	<input type="checkbox"/> bank fishing	<input type="checkbox"/> hunting
<input type="checkbox"/> camping	<input type="checkbox"/> walking/hiking	<input type="checkbox"/> sightseeing
<input type="checkbox"/> nature study/wildlife viewing/photography	<input type="checkbox"/> swimming	<input type="checkbox"/> picnicking
<input type="checkbox"/> motor-boating	<input type="checkbox"/> kayaking/canoeing	<input type="checkbox"/> boat fishing
<input type="checkbox"/> other (please specify: _____)		

10C. Are there any additional facilities/improvements needed **at Fury's Ferry and/or Chota Drive**? (Check one box.)

- YES
- NO (If no, skip to Question 11.)

10D. What improvements do you recommend **at Fury's Ferry and/or Chota Drive**? (Fill in the blank.)

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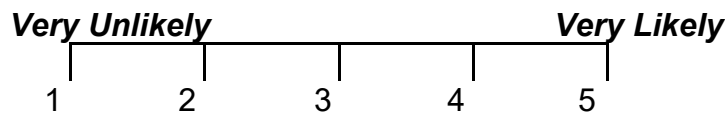
11. Are there any additional **recreation facilities and/or boating access provisions** needed at the Stevens Creek Project?

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12. On a scale from 1 to 5, with 1 being very unlikely and 5 being very likely, how likely would you be to portage Stevens Creek Dam, if it were possible?



13. What other lakes do you recreate at? (Fill in blank.)

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14. What is your zip code? \_\_\_\_\_

15. In what year were you born? \_\_\_\_\_

16. Do you have any additional comments about this recreation site, including comments on existing or needed recreation facilities? *(Please fill in blank and be as specific as possible.)*

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**THANK YOU FOR YOUR HELP! WE APPRECIATE YOUR TIME TODAY!**

**APPENDIX C**

**SPOT COUNT FORM**

**Spot Count Form**  
**Dominion Energy South Carolina, Inc.**  
**Stevens Creek Hydroelectric Project**

<b>MONITOR:</b> _____	<b>DATE:</b> ____ / ____ / ____ (month) (day) (year)	<b>Day Type:</b> 1 weekday 2 weekend 3 holiday
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<b>WEATHER AT START</b> (PLEASE CIRCLE AS MANY DESCRIPTORS AS APPLY)	1. SUNNY 2. PARTLY SUNNY 3. CLOUDY 4. LIGHT SHOWERS 5. HEAVY RAIN 6. WINDY	
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<b>SPOT COUNT</b>				
<b>RECREATION SITE</b>	<b>TIME</b>  AM/PM	<b>TOTAL VEHICLES W/O TRAILERS</b>	<b>TOTAL VEHICLES W BOAT TRAILERS</b>	<b>TOTAL VEHICLES W KAYAK/CANOE TRAILERS</b>

TYPES OF ACTIVITIES	Check all	STATE LICENSE PLATES	# FROM EACH STATE
<b>FISHING</b>		South Carolina	
Boat Fishing		Georgia	
Pier/dock Fishing		North Carolina	
Bank Fishing		Other:	
<b>BOATING</b>			
Motor Boating			
Pontoon/party Boating			
Sailing			
Canoeing/Kayaking			
Windsurfing			
Paddle-boarding			
<b>OTHER</b>			
Bicycling			
Tent or Vehicle Camping			
Walking/Hiking/Backpacking			
Sightseeing			
Hunting			
Nature Study/Wildlife			
Swimming			
Picnicking			
Sunbathing			
Other:			
<b>TOTAL:</b>			

## **APPENDIX B**

### **CONSULTATION DOCUMENTATION**

Document	Commentor	Comment Code	Comment	Addressed in Body of Report	Applicant Response
Recreation Use and Needs Study Report	SCDNR	Rec SCDNR 01	The SCDNR finds the data collected during the Recreational Use and Needs (RUN) Study Report support the need for additional recreational enhancements at the Stevens Creek Project.	No: See Applicant Response	Comment noted. DESC is proposing additional recreational enhancements at the Project in the FLA and Recreation Management Plan.
Recreation Use and Needs Study Report	SCDNR	Rec SCDNR 02	The SCDNR requests the licensee further discuss Goal 2 of the RUN Study by identifying ways to improve recreational access and amenities in the Project Area.	Yes: RUN Report - Section 5.2	Section 5.2 has been expanded to include additional discussion regarding Goal 2.
Recreation Use and Needs Study Report	SCDNR	Rec SCDNR 03	The SCDNR continues to support the licensee providing downstream portage opportunities for the public around the Stevens Creek dam. The findings in Section 4.5.2 indicate that 79 percent of recreationists at the Betty's Branch Recreation Site and 11 percent of recreationists at Stevens Creek Recreation Site identified non-motorized watercraft as their primary recreation activity. Further, 71 percent of the recreationists at Betty's Branch and 62 percent of recreationists at Stevens Creek Recreation Site indicated that they were likely to very likely to utilize a portage around the dam.	No: See Applicant Response	DESC recognizes the public's interest in portage opportunities at the Stevens Creek Dam. During relicensing, DESC investigated portage options on both the South Carolina and Georgia sides of the dam. A portage along the Georgia side of the dam is not feasible due to the location of the powerhouse and other project works and associated safety concerns. DESC considered a portage along the South Carolina side of the dam, however the steep and rocky terrain is not conducive to a portage that would be safe for most recreationists. In addition, as SCDNR notes in a separate comment, Stallings Island, a National Historic Landmark site and area of cultural and religious importance to the Muscogee Nation, is located just downstream of the dam and is victim to regular looting. Although the public can currently access this area, DESC does not want to encourage further opportunities for public access closer to the island.
Recreation Use and Needs Study Report	SCDNR	Rec SCDNR 04	The SCDNR agrees with partner resource agencies, tribes, and other stakeholders that looting of Stallings Island is a concern and looks forward to developing protective measures to preserve the island's cultural resources. Public recreational access to the Savannah River below Stevens Creek dam currently exists; therefore, the public's access around the dam should not be limited due to these concerns.	No: See Applicant Response	Thank you for your comment.
Recreation Use and Needs Study Report	GDNR	Rec GDNR 01	Discussion of Future Use: Please expand the discussion section to address Objective iii of Goal 2 by summarizing some potential takeaways or ideas to improve recreation in the project area.	Yes: RUN Report - Section 5.2	Section 5.2 has been expanded to include additional discussion regarding Objective iii of Goal 2.
Recreation Use and Needs Study Report	GDNR	Rec GDNR 02	Improved Reservoir Access: In Section 4.5.6, nearly as many responses in Table 4.16 mentioned "near the dam" as they did "Sportsman's Corner". The former was not mentioned in the narrative and the latter was. Please include the need for more access near the dam on the Georgia side in the narrative along with the need for access near Sportsman's Corner.	Yes: RUN Report - Section 4.5.6	The text has been revised in section 4.5.6 regarding additional access near the dam
Recreation Use and Needs Study Report	GDNR	Rec GDNR 03	Improved Reservoir Access: The results of the surveys suggest a need for improved boating access. The Stevens Creek recreation site was the only site to exceed capacity (Section 4.3) during the recreation study and it was also the site where most of the users were boat fishing (Section 4.5.2) and vehicles with trailers were the most common vehicle type (Section 4.6). It was peak fishing season (April – June 2021) when the Stevens Creek site exceeded or approached capacity. Additional boating access facilities with trailer parking would help with Stevens Creek Recreation Site's capacity issues. Since most of the project area users are from the Georgia (Section 4.5.1), additional boating access may be most effective on the Georgia side of the reservoir.	No: See Applicant Response	Currently, boating access to the Stevens Creek Reservoir on the Georgia side of the dam exists in two locations: the Betty's Branch Recreation Site and the USACE recreation site downstream of Thurmond Dam (outside of the Project boundary). DESC is proposing to enhance recreation amenities at the Betty's Branch Recreation Site through the development of a revised Memorandum of Agreement with Columbia County. Other than that located near the Stevens Creek Dam and set aside for Project operations, DESC does not own any other land on the Georgia side of the Stevens Creek reservoir.
Recreation Use and Needs Study Report	GDNR	Rec GDNR 04	Downstream Access: Sixty-nine percent of visitors indicated that they would utilize a portage. Additionally, Stallings Island is included as a Columbia County tourist attraction ( <a href="https://www.visitcolumbiacountyga.com/serene18-paddle-trail/">https://www.visitcolumbiacountyga.com/serene18-paddle-trail/</a> ). We look forward to continued discussions with all stakeholders to ensure efforts to improve access reduce, or at the minimum do not increase, potential threats to cultural resources.	No: See Applicant Response	DESC recognizes the public's interest in portage opportunities at the Stevens Creek Dam. During relicensing, DESC investigated portage options on both the South Carolina and Georgia sides of the dam. A portage along the Georgia side of the dam is not feasible due to the location of the powerhouse and other project works and associated safety concerns. DESC considered a portage along the South Carolina side of the dam, however the steep and rocky terrain is not conducive to a portage that would be safe for most recreationists. In addition, as SCDNR notes in a separate comment, Stallings Island, a National Historic Landmark site and area of cultural and religious importance to the Muscogee Nation, is located just downstream of the dam and is victim to regular looting. Although the public can currently access this area, DESC does not want to encourage further opportunities for public access closer to the island.
Recreation Use and Needs Study Report	GDNR	Rec GDNR 05	Anglers' Target Species: If possible, please provide the percentage of anglers' total responses for each target fish species listed in Section 4.5.2.	Yes: RUN Report - Section 4.5.2	Section 4.5.2 has been revised to provide percentages of angler's response for each target fish species.

MARK WILLIAMS  
COMMISSIONER

TED WILL  
DIRECTOR

MEMORANDUM

SUBJECT: Stevens Creek Hydropower Project, FERC Docket # P-2535

Comments on Recreation Use and Needs Study Report and Water Quality Study Report

**Water Quality Study Report**

One of the most significant findings from this study is the poor water quality in the Stevens Creek arm (study sites 4 & 5). Stevens Creek Dam likely plays an important role in the downstream processing of all the water quality parameters measured in this study, especially in the context of receiving the poor water quality measured in Stevens Creek and the poorly oxygenated water from Thurmond Dam.

Please expand of the “Analysis and Discussion” section to include discussion of these parameters, most notably dissolved oxygen, temperature, turbidity, and nutrient levels. Specifically, include discussion of the following observations:

*Dissolved Oxygen*

- Minimum recorded values of dissolved oxygen (DO) were below 5 mg/L for six months each at sites 4 & 5 and of further concern is a minimum DO value of 0.4 mg/L at site 4 in October 2021 (Tables 4-11 and 4-12). We request Dominion provide a discussion of how long dissolved oxygen levels remained below 5 mg/L during each excursion and discuss the potential causes.

*Temperature*

- Stevens Creek Dam appears to help mitigate the latitudinal temperature gradient seemingly driven by the warmer water coming from Stevens Creek.

*Turbidity*

- Stevens Creek is consistently very turbid and appears to maintain higher turbidity levels on the SC side both above and below the dam. Overall turbidity appears largely unaffected by the dam, with downstream sites matching very closely to corresponding upstream sites, except for occasional spikes of turbidity at Site 1 that do not seem to make it past the dam.
- At site 1 from June to October of 2021, there were several outlier turbidity measurements that were significantly higher than average for that site and higher than other sites at that time.

*Nutrients*

- Stevens Creek Reservoir appears to function as a P-sink, reducing the high P load from Stevens Creek to negligible levels before it enters the reservoir (likely due to settling or uptake). Phosphorous levels were negligible within the reservoir and below the dam despite high levels above in Stevens Creek.
- The negligible values of ammonia measured indicate that the TKN values essentially represent organic N. Stevens Creek also appears to be a significant source of organic N that decreases by almost half as it flows through the SC side of the system (sites 5, 4, then 3). A lesser amount of organic N flows through the system on the GA side. Dissolved inorganic N levels are consistent

across all sites suggesting that N may be saturated and not a primary limiting nutrient in the system. Stevens Creek Reservoir does not appear to function as a strong sink for N, as it does for P.

- The ammonia value measured at site 3 is higher than any corresponding TKN value, which should not be possible.
- With Orthophosphate measured at site 2, it seems that the corresponding Total Phosphorous value should have detected at least a similar value.
- Please provide the nutrient data listed by month collected, as was provided for DO, temperature, and turbidity. These data may help us understand seasonal effects and relationships with other monthly parameters.

#### *Other*

- We request Dominion include coordinates of the water quality sampling locations within the study report, so that resource agencies can know the exact location of the water quality sampling within the channel. Two additional inset maps (1. JST forebay/tailrace and 2. Site 5) would be helpful. These details will help us understand how flow dynamics could be affecting water quality results.

#### *Additional Studies*

- We request that Dominion extend the continuous and monthly water quality study for a second 12-month period. During this second period, we request that Dominion consult with resource agencies to expand water quality monitoring efforts within the Stevens Creek arm by adding sample sites dispersed throughout the Stevens Creek project area. This expanded study should include investigation into how Stevens Creek Dam alters flow dynamics of Stevens Creek. Results of the study should include a discussion of how the dam may be influencing the elevated phosphorus and low dissolved oxygen levels within Stevens Creek and the reservoir at and below the confluence.

### **Recreation Use and Needs Study Report**

#### *Discussion of Future Use*

- Please expand the discussion section to address Objective iii of Goal 2 by summarizing some potential takeaways or ideas to improve recreation in the project area.

#### *Improved Reservoir Access*

- In Section 4.5.6, nearly as many responses in Table 4.16 mentioned “near the dam” as they did “Sportsman’s Corner”. The former was not mentioned in the narrative and the latter was. Please include the need for more access near the dam on the Georgia side in the narrative along with the need for access near Sportsman’s Corner.
- The results of the surveys suggest a need for improved boating access. The Stevens Creek recreation site was the only site to exceed capacity (Section 4.3) during the recreation study and it was also the site where most of the users were boat fishing (Section 4.5.2) and vehicles with trailers were the most common vehicle type (Section 4.6). It was peak fishing season (April – June 2021) when the Stevens Creek site exceeded or approached capacity. Additional boating access facilities with trailer parking would help with Stevens Creek Recreation Site’s capacity issues. Since most of the project area users are from the Georgia (Section 4.5.1), additional boating access may be most effective on the Georgia side of the reservoir.



### *Downstream Access*

- Sixty-nine percent of visitors indicated that they would utilize a portage. Additionally, Stallings Island is included as a Columbia County tourist attraction (<https://www.visitcolumbiacountyga.com/serene18-paddle-trail/>). We look forward to continued discussions with all stakeholders to ensure efforts to improve access reduce, or at the minimum do not increase, potential threats to cultural resources.

### *Anglers' Target Species*

- If possible, please provide the percentage of anglers' total responses for each target fish species listed in Section 4.5.2.

# South Carolina Department of Natural Resources



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Robert H. Boyles, Jr.  
Director

Lorianne Riggan  
Director, Office of  
Environmental Programs

September 2, 2022

Ms. Jennifer A. Güt  
Staff Licensing Coordinator  
Kleinschmidt  
204 Caughman Farm Lane, Suite 301  
Lexington, SC 29072

REFERENCE: Comments on the Stevens Creek Hydroelectric Project (P-2535)  
Freshwater Mussel, Recreation Use and Needs, and Water Quality Study  
Reports.

Dear Ms. Güt:

The South Carolina Department of Natural Resources (SCDNR) has reviewed the Stevens Creek Hydroelectric Project's (P-2535) Freshwater Mussel, Recreation Use and Needs, and Water Quality Study Reports and offer the following comments.

### Freshwater Mussel Study Report

The SCDNR notes that the two species collected during the survey were *Elliptio complanata* and *Villosa delumbis*, which are both moderate priority species in the South Carolina State Wildlife Action Plan (SWAP). The SCDNR has records of *Lampsilis cariosa*, a highest priority SWAP species, at Stevens Creek Heritage Preserve, located less than four miles upstream of the Project Boundary in the Stevens Creek arm. SCDNR also has records of *Uniomerus carolinianus*, *Elliptio angustata*, and *Elliptio producta* in the surrounding area. Additionally, the SCDNR notes that since deeper pools were not sampled during the survey, *Lampsilis cariosa* could have been missed due to their habitat preference.

### Recreation Use and Needs Study Report

The SCDNR finds the data collected during the Recreational Use and Needs (RUN) Study Report support the need for additional recreational enhancements at the Stevens Creek Project.

The SCDNR requests the licensee further discuss Goal 2 of the RUN Study by identifying ways to improve recreational access and amenities in the Project Area.

The SCDNR continues to support the licensee providing downstream portage opportunities for the public around the Stevens Creek dam. The findings in Section 4.5.2 indicate that 79 percent of recreationists at the Betty's Branch Recreation Site and 11 percent of recreationists at Stevens Creek Recreation Site identified non-motorized watercraft as their primary recreation activity. Further, 71 percent of the recreationists at Betty's Branch and 62 percent of recreationists at Stevens Creek Recreation Site indicated that they were likely to very likely to utilize a portage around the dam.

The SCDNR agrees with partner resource agencies, tribes, and other stakeholders that looting of Stallings Island is a concern and looks forward to developing protective measures to preserve the island's cultural resources. Public recreational access to the Savannah River below Stevens Creek dam currently exists; therefore, the public's access around the dam should not be limited due to these concerns.

#### Water Quality Study Report

Data presented in the Water Quality Study Report indicate that poor water quality conditions frequently occur in the Stevens Creek arm. One main objective of the study was to assess the water quality in the Stevens Creek arm. However, the report does not make note of any contributing factors leading to the poor water quality. USGS station 021963601 located near Study Site 5 suggests a direct effect of the Stevens Creek reservoir level on flow fluctuations in the Stevens Creek arm. SCDNR staff would like an assessment of how flow dynamics and hydraulic residency may be altering instream flows, sediment transport, nutrients, and water quality in the Stevens Creek arm.

The Executive Summary states that there were several dissolved oxygen excursions throughout the study period, particularly at Site 4 and the J. Strom Thurmond (JST) Dam Tailrace. However, Section 5.0 states that dissolved oxygen excursions were most prevalent below the JST Dam and at Site 5, with Site 1 having the third most excursions at the Project. The Executive Summary should be corrected to reflect the results of the study.

The Water Quality Study Plan developed in consultation with the resource agencies and stakeholders stipulates that all continuous data will be analyzed by computing daily and monthly minimum, maximum, and average values for DO and water temperature. Please include the applicable daily water quality parameters in the report. This information will be a useful tool in determining the duration of low DO excursions at each of the Study Sites.

The SCDNR requests that the GPS coordinates and approximate depth ranges of all Study Sites be included in the report.

If possible, the SCDNR recommends that the licensee include bathymetry data around the Stevens Creek dam in the report to better understand the effects of sediment deposition on water quality.

The SCDNR requests further information and discussion regarding why the dissolved oxygen level dropped at Study Site 4 in October 2021.

To better understand the Stevens Creek Project's effects on water quality, the SCDNR requests an extension of the current water quality study for an additional 12-month period. As indicated in the report, Study Site 5 is only 4.5 miles upstream of the confluence with the Savannah River at Stevens Creek Dam. Since the Project Boundary extends 12 miles upstream of the confluence, SCDNR requests additional study sites within the Stevens Creek arm in the second period of the study to better understand the physical extent of the poor water quality. Further, the SCDNR requests additional study sites in the vicinity of Site 5 to determine if the low dissolved oxygen is creating a barrier to fish passage.

The SCDNR recommends the licensee work with the resource agencies and stakeholders to develop PM&E measures to include in the license application to minimize these water quality issues and prevent negative impacts on fish passage.

Thank you for the opportunity to review the study reports and provide comments. Should you have any questions or need additional information, please do not hesitate to contact me by email at [MillerE@dnr.sc.gov](mailto:MillerE@dnr.sc.gov) or by phone at 843.953.3881.

Sincerely,

A handwritten signature in black ink that reads "Elizabeth C. Miller". The signature is written in a cursive style with a large initial "E".

Elizabeth C. Miller  
FERC Coordinator, SCDNR