

# Final Study Plans

## Rocky Mountain Pumped Storage Hydroelectric Project

**August 2022**

FERC No. 2725

Prepared with Kleinschmidt Associates



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## 1.0 INTRODUCTION

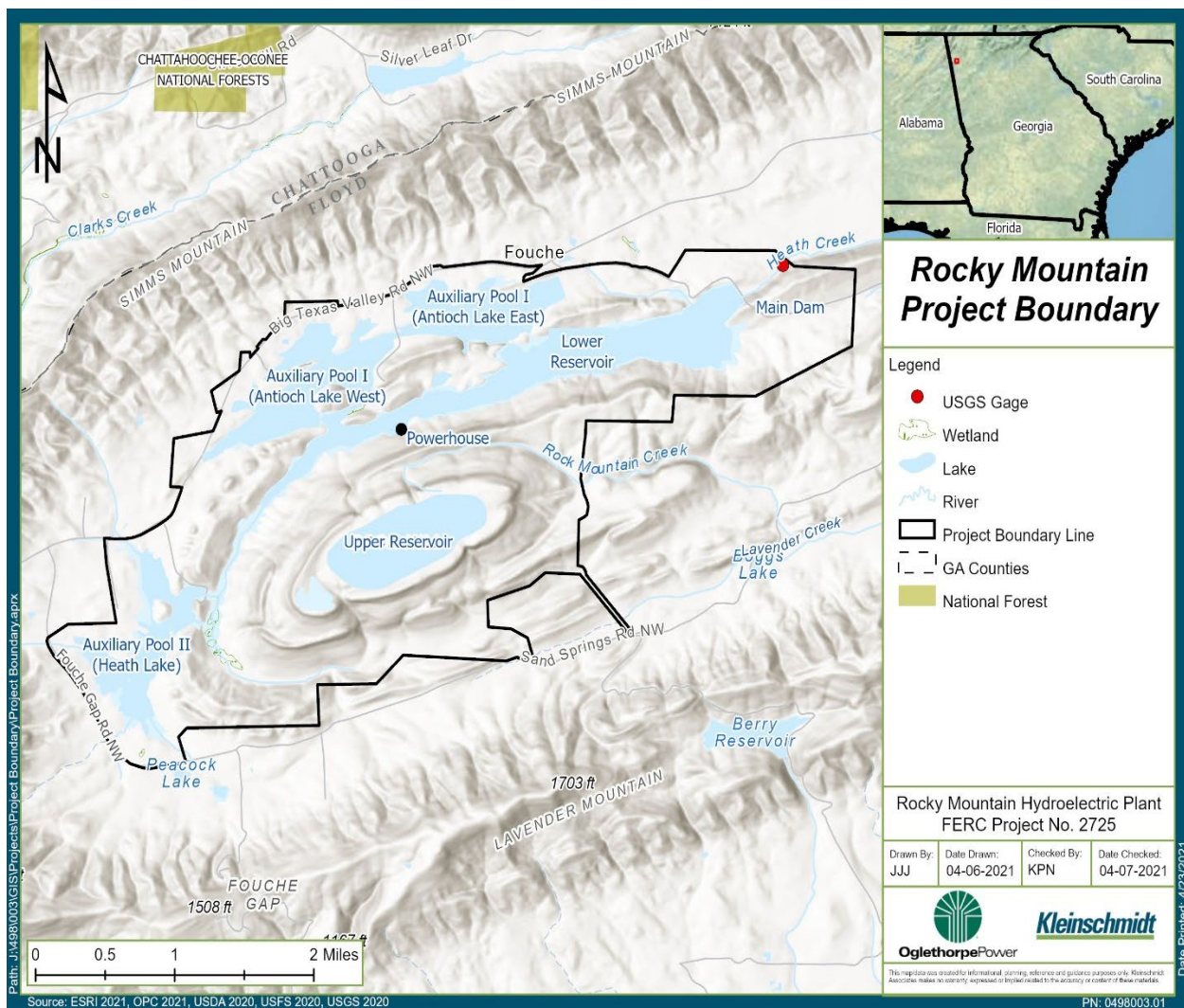
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Oglethorpe Power Corporation (An Electric Membership Corporation) (OPC) has prepared this document to present its study plans to support Federal Energy Regulatory Commission (FERC) relicensing of the Rocky Mountain Pumped Storage Hydroelectric Project (FERC No. 2725) (Rocky Mountain Project, or Project). The 904-megawatt Rocky Mountain Project consists of a 221-acre Upper Reservoir, a 600-acre Lower Reservoir, two Auxiliary Pools, and a powerhouse on Heath Creek in Floyd County, Georgia (Figure 1). The Project also includes a substation located 1.5 miles from the powerhouse and three 230kV transmission lines comprising a total of 1.5 miles, known as the Primary Transmission Line. As described in the Pre-Application Document (PAD) filed with FERC on December 10, 2021, OPC will be proposing in the license application that both the substation and the transmission lines be removed as Project works. OPC is not proposing to add capacity or make any major modifications to the Rocky Mountain Project under the new license. The Project does not occupy any federal lands. The original license expires December 31, 2026.

Subsequent to filing the PAD with FERC on December 10, 2021, OPC received FERC approval to use the Traditional Licensing Process (TLP) on January 26, 2022. OPC held a virtual Joint Meeting and Site Visit with interested stakeholders on March 16, 2022. In the Joint Meeting, OPC presented its proposed plans to conduct resource studies to address information gaps and meet the information needs for FERC's National Environmental Policy Act review of the license application. The Georgia Department of Natural Resources (GDNR) Wildlife Resources Division and the U.S. Fish and Wildlife Service (FWS) subsequently provided comments on the PAD and proposed study plans on May 12-13, 2022. OPC consulted with GDNR, FWS, the GDNR Environmental Protection Division (GEPD), and the Georgia Department of Community Affairs Historic Preservation Division (GHPD) on the proposed study plans in meetings and email communications from April through July 2022.

The study plans set forth in this document address or incorporate recommendations made by GDNR, FWS, GEPD, and GHPD pertaining to the recreation use analysis, water quality monitoring, fish and mussel survey site selection and mussel survey methods, and the cultural resources assessment.





**Figure 1 Project Boundary Map**

## 2.0 WATER QUALITY ASSESSMENT

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OPC will conduct a study characterizing existing water quality at the Rocky Mountain Project. The study will supplement the existing robust water quality data set available for the Project, as summarized in the PAD, and will be accomplished through a combination of new water quality monitoring at representative locations within the project boundary and compilation and analysis of existing water quality data.

### 2.1 Objectives

The specific objectives of this study are to:

- Characterize existing water quality in the Rocky Mountain study area.
- Develop water quality information sufficient for analyzing the effects of project operation and maintenance and project-related recreation on water quality in the license application.

### 2.2 Study Area

The proposed study area includes the Lower Reservoir, Auxiliary Pool I (Antioch Lake), Auxiliary Pool II (Heath Lake), and Heath Creek downstream of the Main Dam within the project boundary.

### 2.3 Methodology

OPC's approach to the water quality assessment consists of the following study elements:

- Compile and analyze water quality data collected by OPC and GDNR at the Project between 1996 and 2020.
- Conduct one year of monthly water quality monitoring at four historic stations within the project boundary to characterize current conditions.

Monthly water quality monitoring will be conducted from June 2022 through May 2023 at historic stations RM11 (Heath Creek downstream of Main Dam), RM13 (Heath Lake), RM15 (Antioch Lake East), and RM16 (Lower Reservoir near the Main Dam) (Figure 2). The Upper Reservoir is not included in monitoring because it exchanges a large volume of water daily with the Lower Reservoir, both reservoirs fluctuate substantially and remain well mixed throughout the water column, and Lower Reservoir water quality is therefore also representative of Upper Reservoir water quality. Rock Mountain Creek is not included

in monitoring because there is no outlet from the Upper Reservoir to the creek and previous water quality sampling in Rock Mountain Creek has indicated that water quality of the creek is unaffected by project operation.



Blue circles indicate station numbers RM11, RM13, RM15, and RM16.

## Figure 2 Proposed Water Quality Monitoring Stations in 2022-2023

Monthly water quality monitoring will include *in-situ* measurements of water temperature, dissolved oxygen (DO) concentration, pH, specific conductance, and turbidity using an electronic multi-parameter water quality measurement sonde. Measurements will be taken at a depth of 1 meter (m) at the impoundment stations (RM13, RM15, and RM16) and at mid-depth in Heath Creek (RM11). The water quality measurement sonde will be calibrated prior to each monitoring event.

During each monthly event, grab samples of water also will be collected at 1-m depth at the impoundment stations and at mid-depth in Heath Creek and analyzed in the laboratory for 5-day biological oxygen demand, ammonia<sup>1</sup>, inorganic nitrogen (nitrate-nitrite), total Kjeldahl nitrogen, ortho-phosphate, and total phosphorus.

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<sup>1</sup> Per recommendation of GEPD, ammonia will also be sampled at one additional location on Heath Creek, downstream and outside of the project boundary, once in summer 2022 to provide data for screening ammonia toxicity as a potential stressor to aquatic organisms in the downstream reach.



For the Heath Creek monitoring location, to be responsive to FWS's request for continuous monitoring and address GDNR's comment about minimizing the effects of temporal variation of monthly water quality data collection, OPC will conduct continuous monitoring of DO concentration and water temperature in Heath Creek downstream of the Main Dam (RM11) for one year beginning in June 2022. A dissolved oxygen data logger will be placed in the stream within the direct influence of releases from the Main Dam and where the channel cross section is relatively uniform in depth and the water well mixed. Placement of the data logger will be determined in consultation with GDNR and based on field measurements of DO within the reach between the Main Dam and USGS gage during the initial water quality monitoring event. The data logger will record DO and water temperature every hour and will be downloaded and the sensor maintained on a routine basis throughout the monitoring period.

A Water Quality Assessment Report will be prepared and provided to stakeholders with the Draft License Application (DLA) for review and comment. The monitoring results and historic water quality data will be summarized in tables and figures and analyzed with respect to applicable state water quality criteria and any evident water quality trends related to project operations and maintenance or project-related recreation.

Additionally, OPC will evaluate the results of the Water Quality Assessment in conjunction with the results of the fish and mussel surveys conducted for the Aquatic Resources Study in consultation with GDNR and FWS to determine whether a second year of water quality monitoring is warranted.

## 2.4 Schedule

The Water Quality Assessment study will be completed according to the milestones in Table 1.

**Table 1      Schedule for Water Quality Assessment**

<b>Activity</b>	<b>Date or Deadline</b>
Begin data compilation and monthly sampling	June 2022
Complete one year of monthly sampling	May 2023
Prepare study report	December 2023
File study report with DLA for stakeholder review	Estimated February 2024



### 3.0 AQUATIC RESOURCES STUDY

OPC proposes to conduct a study characterizing the existing communities of fish and mussels in Heath Creek downstream of the Project for evaluating the effects of continued project operation on aquatic habitat downstream. The study will be accomplished through a fish community survey and a freshwater mussel survey, to be conducted in 2022.

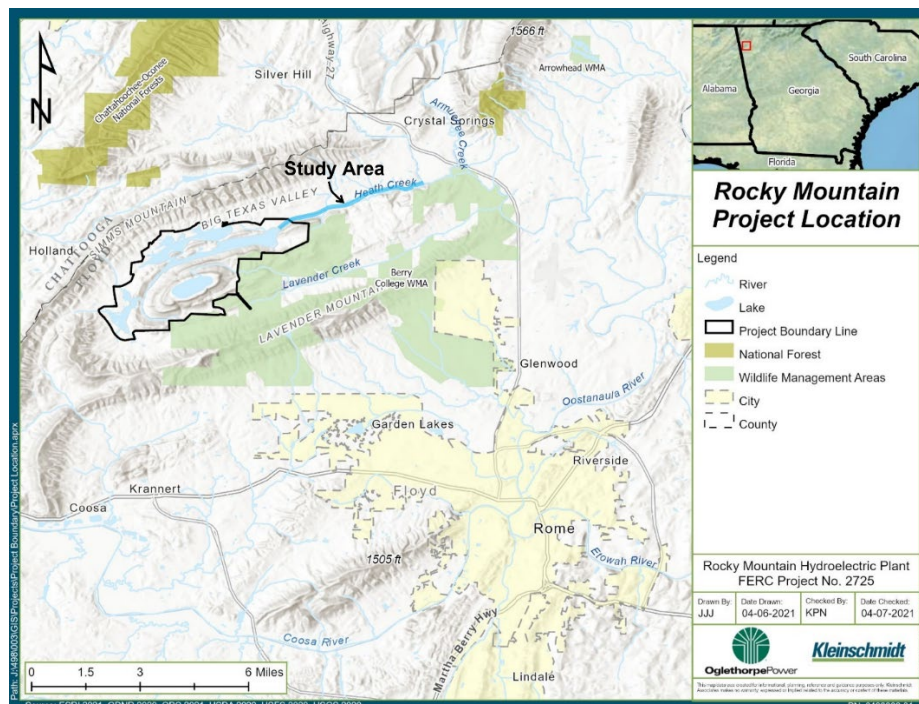
#### 3.1 Objectives

The specific objectives of this study are to:

- Characterize existing communities of fish and mussels in Heath Creek downstream of the Project.
- Develop aquatic resources information sufficient for analyzing the effects of continued project operation on aquatic habitat downstream of the project in the license application, including assessing the presence/absence of rare, threatened, and endangered (RTE) species of freshwater mussels and snails.

#### 3.2 Study Area

The study area includes Heath Creek from the Main Dam downstream to its confluence with Little Armuchee Creek, a reach of approximately 5 miles (Figure 3).



**Figure 3 Heath Creek Study Area for Aquatic Resources Study**

### **3.3 Methodology**

OPC's approach to the aquatic resources study includes the following key elements.

#### **Fish Community Survey**

Consistent with GDNR recommendations fish community sampling will be conducted at two representative locations on Heath Creek in 2022, including a station near the U.S. Geological Survey (USGS) Gage No. 02388320 (Heath Creek near Armuchee, GA) within the project boundary and a station previously surveyed by the GDNR Stream Team in 2001-2002 located about 2.5 miles downstream of the Main Dam at Texas Valley Road. Each station will be surveyed once during the period June-September 2022 following the GDNR's Standard Operating Procedures (SOP) for Conducting Biomonitoring on Fish Communities in Wadeable Streams in Georgia (GDNR 2020a).

Prior to sampling, reconnaissance and stream measurements will take place at each sampling to station calculate mean stream width (MSW). Reach of stream to be sampled will be 35 times the MSW. Additionally, MSW will be used to determine the number of backpack electrofishing units (BPEFs) and netters required to efficiently sample the area in accordance with the referenced SOP.

The fisheries sampling will take place in an upstream direction starting at the downstream end of the sampling reach. Collected fish will be identified to species, enumerated, weighed, and returned to the stream. The fish community data will be analyzed using the multi-metric Index of Biotic Integrity (IBI) to evaluate fish community health compared to reference conditions within the Ridge and Valley ecoregion (GDNR 2020b). The IBI integrates characteristics of the fish community, population, and individuals to assess fish health and biologic integrity. Metrics are based on species richness, evenness, feeding guilds, habitat use, species sensitivity or tolerance to pollutants. Total IBI scores will fall within one of five integrity classes (excellent, good, fair, poor, or very poor) and will be compared to the IBI scores obtained by the GDNR Stream Team for Heath Creek in 2001-2002.

## Freshwater Mussel Survey

A survey for mussels and aquatic snails will be conducted in representative habitats in Heath Creek in 2022 to characterize the occurrence, distribution, relative abundance, and species richness of the native freshwater mollusk community. The survey will include habitats with potential to support RTE species of mussels and snails (mollusks). Based on known element of occurrence records (historic or present) and species range and habitat data, ten state and/or federally protected mollusk species, and one mussel species under federal review for listing, potentially occur in the project vicinity, including several species with historic occurrence records in the Armuchee Creek watershed, and therefore, potential to occur in Heath Creek (Table 2).

**Table 2      Rare, Threatened, and Endangered Freshwater Mollusk Species with Known Records of Occurrence in Floyd County**

Scientific Name	Common Name	Federal Status <sup>a</sup>	Georgia Status <sup>b</sup>
<b>Mussels:</b>			
<i>Elliptio arca</i>	Alabama spike		E
<i>Hamiota altilis</i>	Finelined pocketbook	LT	T
<i>Medionidus acutissimus</i>	Alabama moccasinshell	LT	E
<i>Medionidus parvulus</i>	Coosa moccasinshell	LE	E
<i>Pleurobema decisum</i>	Southern clubshell	LE	E
<i>Pleurobema georgianum</i>	Southern pigtoe	LE	E
<i>Ptychobranhus foremanianus</i>	Rayed kidneyshell	LE	E
<i>Ptychobranhus greenii</i>	Triangular kidneyshell	LE	
<i>Villosa umbrans</i>	Coosa creekshell	UR	R
<b>Snails:</b>			
<i>Leptoxis foremani</i>	Interrupted rocksnail	LE	E
<i>Pleurocera showalteri</i>	Upland hornsnail		R

<sup>a</sup> Federal status: LE = listed endangered; LT = listed threatened; UR = under review.

<sup>b</sup> Georgia state status: E = endangered; T = threatened; R = rare.

The survey will be conducted by a team of biologists experienced in the collection of freshwater mussels and snails led by a malacologist who brings extensive knowledge of the mollusk fauna of the Coosa River basin in Georgia, under the authority of scientific collecting permits issued by GDNR and FWS.

The search reach on Heath will extend from the Main Dam downstream approximately 5 stream miles to the confluence with Little Armuchee Creek. Using snorkeling gear, surveyors will begin at the downstream end of the reach and work upstream bank to bank. All live mussels and snails will be identified to species and returned to the substrate where they were found. Substrate characteristics along the study reach will be documented. All mussels will be measured to the nearest millimeter (long axis). The survey will take place in June-September 2022.

At least one voucher specimen of each mussel and snail species found fresh dead will be retained and deposited at a regional malacological collection. Live mussels and snails will be photographed and returned to the river bottom where they were found. FWS and GDNR will be notified within 24 hours if a federally protected species is found in the survey area. Due to the sensitivity of RTE species occurrence data, specific locations of RTE species detected, if any, will be shared only with FWS and GDNR and will be filed as privileged (non-public) information.

## Reporting

An Aquatic Resources Study Report will be prepared that characterizes aquatic resources present in Heath Creek downstream of the Project. A separate freshwater mussel survey report will be appended to the study report, and the mussel survey findings will be summarized in the main study report. The fish and mussel survey results will be presented in tables and figures, as appropriate, and analyzed with respect to species occurrence, species richness, relative abundance, biotic integrity, and other community attributes. The study results will be used in the DLA to analyze the effects of continued project operation on aquatic resources downstream of the Project.

### 3.4 Schedule

The Aquatic Resources Study will be completed according to the milestones in Table 3.

**Table 3      Schedule for Aquatic Resources Study**

Activity	Date or Deadline
Conduct fish community survey	June-September 2022
Conduct mussel survey	June-September 2022
Prepare study report	January 2023
File study report with DLA for stakeholder review	Estimated February 2024



### **3.5 References**

GDNR (Georgia Department of Natural Resources). 2020a. Part I: Standard Operating Procedures for Conducting Biomonitoring on Fish Communities in Wadeable Stream in Georgia. GDNR, Wildlife Resources Division, Fisheries Management Section.

GDNR (Georgia Department of Natural Resources). 2020b. Part IV: Scoring Criteria for the Index of Biotic Integrity to Monitor Fish Communities in Wadeable Stream in the Coosa and Tennessee Drainage Basin of the Ridge and Valley Ecoregion in Georgia. GDNR, Wildlife Resources Division, Fisheries Management Section.

## **4.0 TERRESTRIAL AND WETLAND RESOURCES SURVEY**

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OPC will conduct a study to characterize existing terrestrial wildlife and botanical resources and wetlands and riparian resources at the Rocky Mountain Project through a field reconnaissance survey and the use of existing information and data. This study plan combines wildlife and botanical resources as described in Section 4.5 of the PAD; wetlands, riparian, and littoral habitat as described in Section 4.6 of the PAD; and RTE terrestrial plants and wildlife as described in Section 4.7 of the PAD into a single consolidated survey effort.

### **4.1 Objectives**

The specific objectives of this study are to:

- Describe terrestrial wildlife and botanical resources occurring in the study area, including lists of representative plant and animal species that use representative habitats and identifying invasive species in these habitats.
- Describe floodplain, wetlands, and riparian habitats occurring in the study area, including lists of representative plant and animal species that use representative habitats and identifying invasive species in these habitats.
- Prepare a map of the principal vegetation community types in the project boundary, including wetlands.
- Identify potentially suitable habitat for RTE species of plants and animals in the project boundary.
- Develop information sufficient for analyzing the effects of continued project operation on terrestrial and wetland resources and terrestrial RTE species of plants and wildlife in the license application.

### **4.2 Study Area**

The proposed study area includes the project boundary around the Lower and Upper Reservoirs, the Auxiliary Pools, and Heath Creek.

### **4.3 Methodology**

OPC's approach to the terrestrial and wetland resources survey consists of the following study elements.

## Review of Existing Information

Descriptions of existing terrestrial and wetland resources in the study area (i.e., wildlife and botanical resources; wetlands, riparian, and littoral habitat; and terrestrial RTE plant and wildlife species) will be based on review of existing information summarized in the PAD, including but not limited to the following sources:

- Terrestrial Management Plan for the Rocky Mountain Project (GDNR 2013)
- *The Natural Communities of Georgia* (Edwards et al. 2013)
- Georgia State Wildlife Action Plan (GDNR 2015)
- GDNR's online Georgia Biodiversity Portal
- USFWS Environmental Conservation Online System
- *Field Guide to the Rare Plants of Georgia* (Chafin 2007)
- Georgia Exotic Pest Plant Council's list of non-native plants in Georgia
- National Audubon Society's Christmas bird count historical data
- USFWS National Wetlands Inventory (NWI) data
- USGS topography
- Google Earth aerial imagery

## Field Reconnaissance Survey

A field reconnaissance survey of the study area, concentrating mainly on uplands and wetlands around the project waters and project recreation areas will be conducted in appropriate seasons to observe representative terrestrial and wetland vegetative communities and associated wildlife habitat. Field surveys will be conducted in summer 2022 to inventory wildlife and botanical resources in the major vegetative community types identified in the Terrestrial Management Plan for the Project (GDNR 2013), and in fall 2022 and spring 2023 to survey for RTE plant species flowering in those seasons.

Teams of two biologists/ecologists will visually assess upland, wetland, and riparian communities, by boat along the shorelines of the Lower Reservoir and Auxiliary Pools and by pedestrian surveys of project recreation areas and floodplains of Heath Creek and other streams, wetlands, and potentially unique or sensitive habitats. During the survey, vegetation community types encountered will be described and field notes recorded as

to dominant species, presence of invasive species, wetland community types, and littoral/submerged aquatic vegetation habitat types. Unique habitats, or areas where sensitive species might occur, will be GPS-located. Where encountered, field teams will also identify wildlife species and their spoor (scat, tracks, scents, burrows, etc.).

The RTE species list provided in the PAD will be updated prior to the field survey and utilized as the foundation for visually searching for and identifying potentially suitable habitat for RTE species within the study area. Should RTE species be encountered, species/population information, habitat attributes, GPS location, and other relevant data will be recorded so that findings data can be transmitted to the appropriate agency and documented for the study report. Due to the sensitivity of RTE species occurrence data, specific locations of RTE species detected will be shared only with the agencies having jurisdiction over the resource and will be filed as privileged (non-public) information.

## Reporting

A combined Terrestrial and Wetland Resources Survey Report will be prepared and provided to stakeholders with the DLA for review and comment. The survey findings will be summarized in tables and figures. The study report will also provide a vegetation community map, including wetlands. The study results will be used in the DLA to analyze the effects of continued project operation and maintenance and project-related recreation on terrestrial and wetland resources and RTE species of plants and wildlife.

### 4.4 Schedule

The Terrestrial and Wetland Resources Survey will be completed according to the milestones in Table 4.

**Table 4      Schedule for Terrestrial and Wetland Resources Survey**

Activity	Date or Deadline
Conduct field reconnaissance surveys	June-September 2022; April 2023
Prepare study report	August 2023
File study report with DLA for stakeholder review	Estimated February 2024



## 4.5 References

Chafin, L.G. 2007. Field Guide to the rare plants of Georgia. State Botanical Garden of Georgia and University of Georgia Press, Athens.

Edwards, L., J. Ambrose, and L. K. Kirkman. 2013. The natural communities of Georgia. Photographs by Hugh and Carol Nourse. The University of Georgia Press, Athens, Georgia.

Georgia Department of Natural Resources (GDNR). 2013. Terrestrial Management Plan for Rocky Mountain Hydroelectric Plant and Recreation & Public Fishing Area. Spring 2013.

Georgia Department of Natural Resources (GDNR). 2015. State Wildlife Action Plan. Wildlife Resources Division. Social Circle, Georgia.

## 5.0 RECREATION USE ANALYSIS

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OPC will conduct a study characterizing existing recreational use at the Rocky Mountain Project for evaluating the potential effects of continued project operation and maintenance on recreation resources in the license application. This study will be accomplished through the compilation and analysis of abundant existing recreational use information and field activities to inventory and describe existing facilities and survey recreation users at the Project.

### 5.1 Objectives

The specific objectives of this study are to:

- Characterize the existing facilities and recreational use within the project boundary through existing information review, and field activities to inventory and describe existing facilities and survey recreation users at the Project.
- Develop recreational use information sufficient for analyzing the effects of continued project operation and maintenance on recreation resources in the license application.

### 5.2 Study Area

The study area includes the Rocky Mountain Recreation and Public Fishing Area (Rocky Mountain PFA). The Rocky Mountain PFA contains Auxiliary Pool I (Antioch Lake East and West), Auxiliary Pool II (Heath Lake), and other recreation areas (e.g., hiking and biking trails) within the project boundary. Auxiliary Pools I and II are shown in Figure 1.

### 5.3 Methodology

A complete inventory of existing recreation facilities will be conducted. Data will be collected on the type, number, and size of facilities (restrooms, parking areas, boat ramps, picnic shelters and tables, campsites, trails, etc.) at the Rocky Mountain PFA. The general condition of all facilities will be noted during the inventory. Any facilities that qualify as barrier-free will be identified.

As recommended by GDNR, OPC will conduct on-site recreation surveys to collect data on public use characteristics and user satisfaction levels. Recreation users at the Project

will be surveyed on 15 days between June 2022 and May 2023<sup>2</sup>. The purpose of these on-site surveys will be to assess trends in recreation user composition, primary recreation uses, user satisfaction, and adequacy of existing facilities; annual recreation use will be estimated using GDNr traffic count data, as described below. Specifically, a field crew will conduct surveys on 9 days between June and October 2022 to capture summer and early fall use and again on 6 days between March and May 2023 to capture spring use. Conducting the surveys in these seasons, which typically receive the highest amounts of use (summer months for boating and swimming, spring months for fishing) will maximize the rate of return on surveys collected versus time spent in the field. Surveys will be conducted on a mix of weekdays, non-peak weekends, and peak weekends (or holidays), with an emphasis towards non-peak weekends, using the survey form developed in consultation with GDNr (Figure 4). A general schedule is provided in Table 5. A two-person field crew will be on site to conduct surveys for a total of 8 hours, generally between the hours of 8:00 AM and 4:00 PM. During the spring survey events, the field crew will be on site generally between the hours of 7:00 AM and 3:00 PM to interview morning anglers. Each member of the field crew will be stationed at one of three locations to conduct surveys: the main entrance ("Main"), the beach entrance ("Beach"), or the Heath Lake entrance ("Heath"). Surveys will only be conducted at the Heath entrance during the first 10 days of each month since Heath Lake is only open for fishing during this time.

**Table 5      General Survey Schedule**

<b>Survey #</b>	<b>Month, Year</b>	<b>Day Type</b>	<b>Entrances</b>
1	June 2022	Weekend	Main, Beach
2	July 2022	Holiday	Main, Beach, Heath
3	July 2022	Weekday	Main, Beach
4	August 2022	Weekend	Main, Beach, Heath
5	August 2022	Weekday	Main, Beach
6	September 2022	Weekend	Main, Beach, Heath
7	September 2022	Weekday	Main, Beach
8	October 2022	Weekend	Main, Beach, Heath
9	October 2022	Weekend	Main, Beach

<sup>2</sup> During discussions with GDNr on April 22, 2022, GDNr indicated they may be able to provide an intern to conduct additional surveys at the Rocky Mountain PFA. If GDNr is able to employ an intern to conduct surveys, the survey schedule will be revised.

Survey #	Month, Year	Day Type	Entrances
10	March 2023	Weekend	Main, Beach, Heath
11	March 2023	Weekday	Main, Beach
12	April 2023	Weekend	Main, Beach, Heath
13	April 2023	Weekend	Main, Beach
14	May 2023	Weekday	Main, Beach, Heath
15	May 2023	Weekend	Main, Beach

OPC's recreation survey methodology and level of effort are similar to those used by GDNR in a 2006-2007 recreation survey of the Rocky Mountain PFA, and they are consistent with generally accepted practice in relicensing recreation studies. As such, the recreation survey is expected to yield statistically valid and sufficiently robust data for representing recreation users and their satisfaction levels with the PFA facilities, and for comparison with the 2006-2007 survey results.

In addition to in-person surveys, a survey drop-box will be installed at the campground entrance/check-in area. Campers will be able to complete a survey during their visit and leave it in the drop box upon leaving. The survey drop-box will be installed from June through October 2022 to capture peak use in the summer and early fall. The campground survey will use the survey form developed in consultation with GDNR (Figure 5).

Current recreational use will be determined using existing data and information collected by GDNR, including attendance records, traffic count data, and staff observations; these sources of data were used to develop the 2015 Form 80 recreation report filed with FERC. It is OPC's understanding that GDNR continuously collects traffic count data using counter devices installed at the three Rocky Mountain PFA entrances. OPC will use one full year of traffic count data provided by GDNR to estimate recreational use at the Rocky Mountain PFA in 2022 for comparison to recreational use estimates for prior years, as summarized in the PAD. The reported estimate of recreation use will be presented in "recreation days." FERC defines a recreation day as one visit by a person to a development for purposes of recreation during any 24-hour period. An estimate of recreational use during the peak recreation season (April-September) and non-peak recreation season (October-March) will be calculated. The weekday, weekend, and peak weekend (holiday) average recreation days during the peak recreation season will be calculated.



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 for Floyd County, Georgia, as reported by the U.S. Census Bureau. The increase in population will be applied to the annual use estimates for the Project to determine a future recreation use estimate. This information will be considered when determining future recreation needs at the Project.

The need for recreation and site development or modifications of existing recreation resources will be assessed based on the inventory, condition assessment results, recreation surveys, and future recreation use estimates. 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. The need for new recreation sites and/or facilities, as well as improvements to existing recreation amenities, will be determined through assessment of the information collected and consultation with stakeholders, particularly GDNR.

A Recreational Use Analysis Report will be prepared and provided to stakeholders with the DLA for review and comment. The study report will characterize existing recreation use and evaluate the need for recreational access or facility improvements.

#### 5.4 Schedule

The Recreational Use Analysis will be completed according to the milestones in Table 6.

**Table 6      Schedule for Recreational Use Analysis**

<b>Activity</b>	<b>Date or Deadline</b>
Conduct surveys	June-October 2022, March-May 2023
Analyze data	June-July 2023
Prepare study report	September 2023
File study report with DLA for stakeholder review	Estimated February 2024

Oglethorpe Power Corporation Rocky Mountain Pumped Storage Project Recreation Use Survey	Oglethorpe Power Corporation is conducting this survey to learn about recreational use at Rocky Mountain Public Fishing Area (PFA), user satisfaction with existing recreation facilities, and whether facility improvements may be needed. Please take a few minutes to answer some questions about your visit today. Thank you for your participation.
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Location: <input type="checkbox"/> Main <input type="checkbox"/> Beach <input type="checkbox"/> Heath		Date: _____		Time: _____	
Interviewer: _____					
Vehicle Type: <input type="checkbox"/> Vehicle w/ Trailer <input type="checkbox"/> Vehicle w/o Trailer <input type="checkbox"/> RV/Camper					
1. What is your county and state of residence?		County: _____		State: _____	
2. What is your zip code? _____					
3. How many people (including you) are in your group today? _____ people					
4. What is your age?		<input type="checkbox"/> 18-24	<input type="checkbox"/> 25-34	<input type="checkbox"/> 35-44	<input type="checkbox"/> 45-54 <input type="checkbox"/> 55+
5. If you came with others, what are their age groups? (check all that apply)					
<input type="checkbox"/> Children (Infants-12)	<input type="checkbox"/> Youth (13-17)	<input type="checkbox"/> Adults (18-55)	<input type="checkbox"/> Senior Adults (over 55)		
6. How did you hear about the area?					
<input type="checkbox"/> Friend/Relative	<input type="checkbox"/> Social Media	<input type="checkbox"/> Other			
7. How many times (including today), have you visited Rocky Mtn PFA in the last 30 days? _____					
8. What is the primary reason for your visit today? (check all that apply)					
<input type="checkbox"/> Boat Fishing	<input type="checkbox"/> Picnicking	<input type="checkbox"/> Hiking	<input type="checkbox"/> Canoeing/kayaking		
<input type="checkbox"/> Bank Fishing	<input type="checkbox"/> Swimming	<input type="checkbox"/> Biking	<input type="checkbox"/> Wildlife viewing		
<input type="checkbox"/> Camping	<input type="checkbox"/> Hunting	<input type="checkbox"/> Pleasure Boating	<input type="checkbox"/> Shoreline relaxation		
<input type="checkbox"/> Other: _____					
9. If you came to fish today, how would you rate your fishing experience?					
<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)	
10. If you came to fish today, where did you fish?					
<input type="checkbox"/> Antioch Lake East	<input type="checkbox"/> Antioch Lake West	<input type="checkbox"/> Heath Lake			
11. If you came to hunt today, how would you rate your hunting experience?					
<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)	
12. Please rate the quality of the existing facilities at this access area. (choose one for each)					
Parking:	<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)
Boat Ramp:	<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)
Docks:	<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)
Restrooms:	<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)
Bank Fishing:	<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)
Beach:	<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)
Picnic Areas:	<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)
Campsites:	<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)
Trails:	<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)
Cleanliness:	<input type="checkbox"/> Very Good (5)	<input type="checkbox"/> Good (4)	<input type="checkbox"/> Fair (3)	<input type="checkbox"/> Poor (2)	<input type="checkbox"/> Very Poor (1)
13. List any specific improvements you would like to see at Rocky Mountain PFA, and any other comments or suggestions.					

**Figure 4 Recreation Survey Form**

Oglethorpe Power Corporation Rocky Mountain Pumped Storage Project Recreation Use Survey	Oglethorpe Power Corporation is conducting this survey to learn about recreational use at Rocky Mountain Public Fishing Area (PFA), user satisfaction with existing recreation facilities, and whether facility improvements may be needed. Please take a few minutes to answer some questions about your visit today. Thank you for your participation.
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Date:		Time:			
1. What is your county and state of residence?		County:		State:	
2. What is your zip code? _____					
2. How many people (including you) are in your group today? _____ people					
3. What is your age?		____ 18-24	____ 25-34	____ 35-44	____ 45-54    ____ 55+
4. If you came with others, what are their age groups? (check all that apply)					
____ Children (Infants-12)		____ Youth (13-17)		____ Adults (18-55)    ____ Senior Adults (over 55)	
5. How would you rate the online booking experience for camping reservations?					
____ Very Good (5)		____ Good (4)		____ Fair (3)    ____ Poor (2)    ____ Very Poor (1)	
6. What activities are you participating in while camping? (check all that apply)					
____ Boat Fishing		____ Picnicking		____ Hiking    ____ Canoeing/kayaking	
____ Bank Fishing		____ Swimming		____ Biking    ____ Wildlife Viewing	
____ Hunting		____ Pleasure Boating		____ Shoreline relaxation    ____ Other (list below):	
7. While camping at Rocky Mountain PFA, are you staying in:					
____ Tent		____ RV		____ Tent/RV Combo    ____ Group Camp	
8. Please rate the quality of the existing camping facilities. (choose one description for each)					
Campsite:	____ Very Good (5)	____ Good (4)	____ Fair (3)	____ Poor (2)	____ Very Poor (1)
Playground:	____ Very Good (5)	____ Good (4)	____ Fair (3)	____ Poor (2)	____ Very Poor (1)
Restrooms:	____ Very Good (5)	____ Good (4)	____ Fair (3)	____ Poor (2)	____ Very Poor (1)
Cleanliness:	____ Very Good (5)	____ Good (4)	____ Fair (3)	____ Poor (2)	____ Very Poor (1)
Bank Fishing:	____ Very Good (5)	____ Good (4)	____ Fair (3)	____ Poor (2)	____ Very Poor (1)
9. List any specific improvements you would like to see at Rocky Mountain PFA Campground, and any other comments or suggestions.					

**Figure 5      Campground User Survey Form**

## 6.0 CULTURAL RESOURCES ASSESSMENT

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OPC will conduct a cultural resources assessment of the Rocky Mountain Project to identify and evaluate archaeological and historical resources within the Area of Potential Effect (APE). All work will be conducted in accordance with the *Georgia Standards and Guidelines for Archaeological Investigations* (Revised 2019) and *Georgia Historic Resources Survey Manual* (2017). The study will consist of review of available information on known archaeological and historical sites in the project boundary, including previous extensive cultural resource assessments summarized in the PAD; an archaeological field survey to update/refine site boundaries and to determine the National Register of Historic Places (NRHP) eligibility status of one site, and an architectural field survey to evaluate the NRHP eligibility of project facilities.

### 6.1 Objectives

The goal of this study is to identify and document historic properties located within the APE that could be affected by continued operation and maintenance of the Project. This information will be used to modify the Project's existing Cultural Resources Management Plan (CRMP) into a new Historic Properties Management Plan (HPMP)

The specific objectives of this study are to:

- Identify and summarize known historic properties at the Project within the APE.
- Conduct an archaeological field survey for a site (GP-FL-14/CRFL 14) specified in the 2020 Cultural Resources Monitoring Report (TRC) provided in the PAD to define the site boundaries and evaluate its NRHP eligibility status.
- Refine the site boundaries and update the site forms for three previously evaluated archaeological sites (9FL80, 9FL138, and 9FL148).
- Conduct an architectural field survey to evaluate the NRHP eligibility status of project facilities, which will turn 50 years of age during the new license term.
- Evaluate the potential for effects on historic resources from continued project operation and maintenance and project-related recreation.



## **6.2 Study Area**

The study area will be the APE, which has been identified and delineated in consultation with GHPD, which is Georgia's state historic preservation office (SHPO). The APE is defined as the area within the FERC project boundary, encompassing the project facilities, Rocky Mountain PFA, and 5,000 acres of land and water.

## **6.3 Methodology**

OPC will contract the services of a professional cultural resources consultant who will use currently accepted practices as defined under Section 106 of the Historic Preservation Act of 1966 (as amended) and implementing regulations (36 CFR 800) for the identification and evaluation of historic properties.

### **Agency Consultation**

OPC has consulted with GHPD to define the project APE and to address overall study goals and methods. OPC will prepare map(s) showing the APE as the area within the project boundary and will document GHPD concurrence with the APE.

### **Background Literature Research**

An archaeological site file and literature review will be conducted at the research and collections facility of the University of Georgia and at Georgia's Archaeological Site File records maintained online on the Georgia Natural, Archaeological, and Historic Geographic Information System (GNAHRGIS). The review will include the *Revised Cultural Resources Management Plan for the Rocky Mountain Project, Floyd County, Georgia* (Garrow and Cleveland 1997), which provides a synthesis of the previous extensive cultural resource assessments completed at the Project and summarized in the PAD, the findings of archaeological monitoring conducted at the Project in 2020 (Appendix F of the PAD, privileged information), and existing reports and documents available from OPC.

Architectural research will also include historical research on the Rocky Mountain Project that places it in the context of large-scale hydroelectric power generation, water control features, and recreation in Georgia and the Southeast United States. Material collected will include secondary histories, primary sources, historic maps, photographs, drawings, and reports related to the planning and construction of the Project, as well as documents related to operation of the facility and management of the resources within the APE. The

historical context will be illustrated, fully referenced, and used to evaluate the Project's eligibility for listing in the NRHP.

## Archaeological Survey

In November 2020, TRC Environmental Corporation (TRC) conducted archaeological monitoring of six sites previously recommended for preservation and monitoring, with the goal of locating and visually assessing the condition of each site (Table 7). All six sites were located and shown to be well maintained and protected, with no evidence of looting, natural destruction, erosion caused by project operations, or vandalism.

**Table 7 Archaeological Properties Recommended in the Rocky Mountain Project Cultural Resources Management Plan for Preservation**

Site Identification	Site Name	Description	NRHP Eligibility
9FL80	The Fouche Mill Property	Grist mill, sawmill, fishing club	Unknown <sup>b</sup>
9FL106	The Reed/Milam Property	19 <sup>th</sup> C. log cabin/homestead	Recommended
9FL108 <sup>a</sup>	The Cargle Property	19 <sup>th</sup> -20 <sup>th</sup> C. residence and store	Unknown <sup>b</sup>
9FL138	The Fisher House	19 <sup>th</sup> C. homestead	Recommended
9FL148	The Fouche/Hardy Farm	19 <sup>th</sup> -20 <sup>th</sup> C. plantation and farmstead	Unknown <sup>b</sup>
GP-FL-14/ CRFL14	The Clarence Montgomery Farm	20 <sup>th</sup> C. tenant house	Unknown

<sup>a</sup> The Cargle/Cordle Store, formerly located on the Cargle Property, was moved from its original location to the Rocky Mountain Visitors Center and preserved for public education.

<sup>b</sup> Previously assessed as not eligible; unknown by current standards.

Based on observations from TRC's 2020 monitoring, OPC will conduct the following additional archaeological field survey activities at four of the sites:

- Site 9FL80 (The Fouche Mill Property) – update the site boundaries to include the Fishing Club (see below) and send an updated site form and GIS information to SHPO. Because the site has been thoroughly investigated, no additional shovel testing will be conducted at the site.
- Site 9FL138 (The Fisher House) – refine the boundaries at the periphery of this NRHP-eligible site, which TRC found to be mis-plotted on SHPO maps, based on the extent of the aboveground features. A new boundary and updated site form

will be recorded and submitted to SHPO. Since the site has been thoroughly evaluated, is eligible for the NRHP, and the CRMP for the Project recommends avoidance, no shovel testing will be conducted (see below).

- Site 9FL148 (The Fouche/Hardy Farm) – based on observation of additional structural debris to the north of the original site boundary, refine and update the site boundaries by conducting a systematic pedestrian survey in this northern area along transects spaced no more than 15 meters (m) apart. The new site boundary will be recorded via GPS and updated site form will be recorded and submitted to SHPO.
- Site GP-FL-14/CRFL14 (The Clarence Montgomery Farm) – define the site boundaries by conducting shovel testing and evaluate its NRHP eligibility status. The site has not been formally evaluated and has been avoided (see below). Shovel testing will be conducted in a radial pattern at 15-m intervals to delineate the site boundary. Based on the results of the shovel testing and the aboveground features observed, the site will be formally recorded and submitted to SHPO.

#### *Site 9FL80 (The Fouche Mill Property)*

Originally identified in 1972 on the banks of Heath Creek, the site consists of a saw and grist mill that was originally constructed in 1878. In 1925, a house known as “the Fouche Mill Fishing Club” was built for the mill workers to use on the weekends on the slope above the mill. By 1927, the mill dam was no longer functional, and the mill was abandoned in 1933. The site was first recorded in 1972. In 1983, archaeological testing conducted at the site identified features of the mill works and the Fishing Club. After the test excavations the Mill portion of the site was inundated with the formation of the lake. The Fishing Club portion of the site is located upslope from the mill. It was subject to Data Recovery Excavations in 1984; however, its location is not included on the site boundary depicted on GNAHRGIS. The site was recommended for monitoring in the CRMP and has been preserved in place. OPC will update the site boundary and official site form in the GNAHRGIS database to include the Fishing Camp. The site has been thoroughly investigated and recommended for avoidance in the CRMP. Therefore, no additional shovel testing will be conducted at the site.

### *Site 9FL138 (The Fisher House)*

Archaeological remains at the site consist of two fallen chimneys, four stone piers, and a partially filled cellar that marked the location of a residence. John F. Fisher was the first resident of Floyd County to purchase the property that contains 9FL138, and he bought it on October 22, 1849. Reports indicate the house was in ruins and abandoned by 1910. The site was evaluated through shovel testing and the excavation of 5 x 5-foot and 5 x 10-foot test units and recommended eligible for the NRHP. The site was recommended for avoidance and has been preserved in accordance with the CRMP. A site visit by TRC determined that the mapped location recorded on GNAHRGIS is mis-plotted. OPC will refine the boundaries of Site 9FL138 based on the extent of the aboveground features. Since the site is eligible for the NRHP and the CRMP recommends that minimal disturbance take place, no shovel testing will be conducted. The goal of the work will be to define the correct location of the site and update the site form and maps for submittal to SHPO.

### *Site 9FL148 (The Fouche/Hardy Farm)*

Site 9FL148, is a large farm complex that dates from the mid-nineteenth to the late twentieth century. It was first identified during the 1972 survey, when the structure termed the "Fouche Homestead" was designated (9FL77). Fourteen standing structures were identified in association with the Fouche/Hardy farm during the 1978 survey conducted prior to the construction of the Rocky Mountain Project and the site was given its current site number. The Fouche/Hardy farm dates to 1859 with structures being added to the property into the mid-twentieth century. In 1997, archaeological data recovery at the site noted that all the structures were in ruins, but the portion of the property recommended for preservation retained some research potential. The site has been preserved in place in accordance with the CRMP.

During the 2020 monitoring of the Fouche/Hardy farm, additional structural debris was observed to the north of the original site boundary. Since the site is being treated as eligible for the NRHP, limited disturbance is recommended. OPC will conduct a systematic pedestrian survey limited to the area north of the previously mapped boundary of the site where structural debris was observed. This survey will be conducted along transects spaced no more than 15 m apart. The new site boundary will be recorded via GPS and an updated site form will be submitted to SHPO.

### *Site GP-FL-14/CRFL14 (The Clarence Montgomery Farm)*

Identified as Cultural Resource CRFL14 on some project maps, Site GP-FL-14 was recorded by Georgia Power employees. It has not been formally evaluated for the NRHP. In 1983, it was noted that the site consisted of a house ruin, a standing log structure, several collapsed wood frame outbuildings, and a scattering of trash. The house ruin is reported to be the former home of Clarence Montgomery, a Black tenant on the Hardy Property. The date of construction of the house is undetermined. The house is not shown on the 1895 or the 1904 USGS map but is shown on the 1917 soil map of the county. The house is specifically mentioned in a deed from the Hardy heirs to R. F. Hardy dated December 30, 1958. Artifacts recovered from the site in 1983 dated to the twentieth century with many appearing "modern." The site is considered unassessed and has been avoided.

In order to define the boundaries of Site GP-FL-14/CRFL14, OPC will delineate the site boundary with a radial pattern of shovel tests excavated at 15-m intervals. The site will be evaluated as to its NRHP eligibility and formally recorded. An official state site number will be obtained. TRC will provide recommendations for avoidance based on the results of the delineation.

### **Architectural Survey**

The project facilities will be photo-documented, including the Upper Reservoir, Lower Reservoir, Auxiliary Pools, powerhouse, dams, penstocks, substation, and transmission lines. Recreational facilities at the Auxiliary Pools will also be documented. Views will be taken inside (when possible) and outside all buildings and engineering structures in order to document current conditions and to illustrate the Project's historic features for the purposes of assessing its potential significance. A plan map of the facility will be prepared showing the relationship of the different components to one another.

### **Reporting**

A Cultural Resources Assessment Report will be prepared and provided to participants with the DLA for review and comment. The study report will identify and document the historic properties located within the APE that could be affected by continued operation and maintenance of the Project.

## 6.4 Schedule

The Cultural Resources Assessment will be completed according to the milestones in Table 8.

**Table 8      Schedule for Cultural Resources Assessment**

<b>Activity</b>	<b>Date or Deadline</b>
Identify APE	July 2022
Conduct literature review	July-August 2022
Conduct archaeological survey	August-October 2022
Conduct architectural survey	August-October 2022
Prepare study report	March 2023
File study report with DLA for stakeholder review	Estimated February 2024