

May 24, 2019

Langdale and Riverview Hydroelectric Projects (FERC No 2341-033 & 2350-025)  
Response to Additional Information Request on Surrender Applications

Ms. Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Room 1-A- Dockets Room  
Washington, D.C. 20426

Dear Secretary Bose:

On behalf of Georgia Power Company (Georgia Power), Southern Company is filing this letter with the Federal Energy Regulatory Commission (FERC) in response to your additional information request (AIR) dated April 11, 2019. The FERC requested information is listed below in italics, followed by Georgia Power's response. Georgia Power is also filing five study plans for a 30-day public review and comment period (Attachment A). Georgia Power requests that resource agencies and the public (stakeholders) review and file comments on these study plans with FERC on or before Monday, June 24, 2019. The study plans are also available at Georgia Power's Langdale and Riverview Projects website at <https://www.georgiapower.com/company/energy-industry/generating-plants/langdale-riverview-projects.html>. Additional detail on the study plans is provided in Response 1 and in Attachment A.

- 1) *Please provide a schedule that identifies the implementation schedule (e.g., study date(s), date(s) results will be filed with the Commission, etc.) for each study. Additionally, for each study, you must specify the objectives, methods, and study area, and provide documentation of consultation with the relevant resources agencies, copies of comments and recommendations, and specific descriptions of how you incorporated the agencies' comments.*

In Georgia Power's December 18, 2018, license surrender applications, Georgia Power proposed to conduct four studies related to the decommissioning and removal of the Langdale, Crow Hop and Riverview dams, powerhouses and associated facilities. These studies were described in Exhibit E of the surrender applications. During Georgia Power's pre-filing consultation with agencies on the surrender applications, no studies were requested. After the applications were filed, FERC received comments from various stakeholders requesting information regarding flows and water levels (including effects on property frontage), water quality, water withdrawals, aquatic resources (Shoal Bass and other aquatic life), public access and recreation, and sediment movement in the river following dam removal. A summary of the comments is provided in Response 3, Table 3.

Attachment A includes a study plan for 1) hydrologic and hydraulic (H&H) modeling; 2) water quality; 3) freshwater mussels; 4) Shoal Bass literature review; and 5) cultural resources. Subsequent to filing the applications, Georgia Power added the Shoal Bass literature review study to address stakeholder concerns about the effects of removing the Langdale and Riverview Projects on Shoal Bass. The other issues raised

by stakeholders will be addressed in the proposed studies or through existing information. A schedule for each study is provided in the individual study plans and summarized in Table 1 below.

As noted above, stakeholders should file study plan comments with FERC on or before Monday, June 24, 2019. Should stakeholders provide any comments or recommendations on the study plans, Georgia Power will incorporate them as applicable, and file revised study plans within 30 days, or by July 24, 2019. If comments or recommendations are not incorporated into revised study plans, Georgia Power will provide explanations of why comments or recommendations were not incorporated into the study plan and file them with FERC on July 24, 2019.

Georgia Power will also provide stakeholders the opportunity to review and provide comments on the study reports as they become available, as described in Table 1.

**Table 1 Langdale and Riverview Projects Study Schedule**

<b><u>Study Plan Primary Tasks</u></b>	<b><u>2019 Q2</u></b>	<b><u>2019 Q3</u></b>	<b><u>2019 Q4</u></b>	<b><u>2020</u></b>	<b><u>Post Dam Removal</u></b>
<b>Hydrology &amp; Hydraulic Modeling</b>					
Model Development	X				
Present Model Scenarios to Stakeholder		X			
Stakeholder Comment (30 days)		X			
File H&H Study Report with Decommissioning Plan			X		
Public Comment on Report and Decommissioning Plan				X	
<b>Water Quality (WQ)</b>					
Desktop Analysis	X	X			
File WQ Report with Decommissioning Plan			X		
Public Comment on Report and Decommissioning Plan				X	
<b>Mussel Survey Study</b>					
Mussel survey fieldwork				X	
Mussel Report for Public Review and Comment				X	
<b>Shoal Bass Literature Review</b>					
Develop Literature Review Report	X	X			
File Shoal Bass Report with Decommissioning Plan			X		
Public Comment on Report and Decommissioning Plan				X	
<b>Cultural Resources</b>					
Consult with SHPOs, federally recognized Tribes	X	X	X	X	
Implement cultural resources surveys					X
File Cultural Resources Report					X
SHPO and Tribe Comments on Cultural Resources Report					X

- 2) *Please identify your efforts to obtain Water Quality Certifications, or waivers, from the State of Georgia and Section 404 determinations from the U.S. Army Corps of Engineers for the decommissioning activities associated with the proposed surrenders. Please state the date you filed applications for each of these or when you plan to file them.*

Georgia Power has not yet applied for water quality certifications from the State of Georgia or Alabama or for a United States Army Corps of Engineers (USACE) Section 404 permit. Georgia Power consulted with Georgia Department of Natural Resources, Georgia Environmental Protection Division (GEPD), Alabama Department of Environmental Management (ADEM), and the USACE Mobile District, Water Management group prior to filing its surrender applications in December 2018 and will continue to consult with them as the removal action is further refined.

In December 2019, Georgia Power will file a proposed decommissioning plan based on the results of the H&H modeling and input from agencies and the public. At that time, Georgia Power plans to apply to USACE in both the Mobile and Savannah Districts for a Section 404 permit, which will inform the subsequent 401 process. Georgia Power is scheduling a joint meeting with the USACE Mobile and Savannah Districts in fall 2019 to discuss permitting requirements and additional information on the 404 permitting will be included in the decommissioning plan filed with FERC.

- 3) *Please define the study area(s) for all other resources (e.g., wildlife, aesthetics, recreation, historic, and cultural) which may be impacted by the proposed actions.*

The Study Area for each resource for which Georgia Power has proposed studies as part of the decommissioning plan is presented in Table 2. Table 3 presents a proposed geographic scope of analysis by resource area. The geographic scope includes the physical area of a particular resource that may be affected by the proposed action (i.e., dam removal). The geographic scope of analysis may be different than the Study Area. FERC requested a study area for all resources impacted by the proposed action; however, Georgia Power is providing both study area and geographic scope of analysis to clarify where there are differences.

**Table 2. Study Area for Georgia Power’s Proposed Studies for Langdale and Riverview Projects**

<u>Resource Areas</u>	<u>Proposed Study</u>	<u>Study Area</u>
Water Quantity (flows, water levels)	Hydrologic and Hydraulic Modeling	Approximately one mile upstream of the Interstate 85 bridge downstream through Langdale and Riverview Projects to the headwaters of Lake Harding (Bartletts Ferry Hydroelectric Project reservoir)
Water Quality	Water Quality Study	Project Boundary for Langdale and Riverview Projects to include Langdale pool through Riverview to headwaters of Lake Harding (Barletts Ferry Hydroelectric Project reservoir)

Fish and Aquatic Resources	Shoal Bass Literature Review	Chattahoochee River from West Point Dam downstream through the Langdale and Riverview Projects to the headwaters of Lake Harding (Bartletts Ferry Hydroelectric Project reservoir)
Rare, Threatened and Endangered Species	Mussels Survey	Chattahoochee River in the immediate areas downstream of Langdale, Riverview and Crow Hop Dams, as determined in consultation with the U.S. Fish & Wildlife Service (USFWS)
Cultural Resources (historic and archaeological)	Cultural Resources Study	Langdale and Riverview project lands, affected shoreline and riverbed, and surrounding passageways needed for deconstruction of the dams

**Table 3 Proposed Geographic Scope of Analysis**

<u>Resources</u>	<u>Geographic Scope of Analysis</u>
Soils/Geology	Project Boundary for Langdale and Riverview Projects to include Langdale pool through Riverview to headwaters of Lake Harding (Barletts Ferry Hydroelectric Project reservoir)
Water Use	From approximately 1 mile upstream of the I-85 Bridge (adjacent to the Chattahoochee Valley Water Supply Water Treatment Plant in Lanett, AL) to headwaters of Lake Harding (based on modeling scope and upper limit of Langdale pool)
Water Quantity (flows, water levels)	Approximately one mile upstream of the Interstate 85 bridge downstream through Langdale and Riverview Projects to the headwaters of Lake Harding (Bartletts Ferry Hydroelectric Project reservoir)
Water Quality	Project Boundary for Langdale and Riverview Projects to include Langdale pool through Riverview to headwaters of Lake Harding (Barletts Ferry Hydroelectric Project reservoir)
Fish and Aquatic Resources	Project Boundary for Langdale and Riverview Projects to include Langdale pool through Riverview to headwaters of Lake Harding (Barletts Ferry Hydroelectric Project reservoir)
Wildlife Resources	Project Boundary for Langdale and Riverview Projects to include Langdale pool through Riverview to headwaters of Lake Harding (Barletts Ferry Hydroelectric Project reservoir)
Terrestrial Resources	Project Boundary for Langdale and Riverview Projects to include Langdale pool through Riverview to headwaters of Lake Harding (Barletts Ferry Hydroelectric Project reservoir)

Rare, Threatened and Endangered Species	Specific to mussels, Chattahoochee River in the immediate areas downstream of Langdale, Riverview and Crow Hop Dams, as determined in consultation with USFWS; for other species it will be Project Boundary for Langdale and Riverview Projects
Recreation	Project Boundary for Langdale and Riverview Projects to include Langdale pool through Riverview to headwaters of Lake Harding (Barletts Ferry Hydroelectric Project reservoir)
Aesthetics	Project Boundary for Langdale and Riverview Projects to include Langdale pool through Riverview to headwaters of Lake Harding (Barletts Ferry Hydroelectric Project reservoir)
Cultural Resources (historic and archaeological)	Langdale and Riverview project lands, affected shoreline and riverbed, and surrounding passageways needed for deconstruction of the dams

4) *A number of issues were raised by commenters responding to the surrender notice issued on January 24, 2019. Do you intend to provide a written response to those concerns? If so, please provide your responses or a schedule of when you anticipate responses will be disseminated.*

Following FERC’s January 24, 2019<sup>1</sup> notice soliciting comments on the surrender application, 23 comments were filed by various stakeholders. The comments will be addressed by Georgia Power using the study results and existing information. Georgia Power will present results of the H&H modeling and provide a status update on the remaining studies to stakeholders at a public meeting to be held in September 2019. Additional meeting details will be provided approximately 30 days prior to the public meeting via email communication and the Georgia Power’s project website. Table 4 provides a summary of the comments and the applicable studies and/or existing information that will be used to address the comments. The Decommissioning Plan will provide a table that demonstrates how the comments were addressed through the study results and final proposal for decommissioning.

Once FERC has the information necessary to proceed to environmental analysis, FERC will describe the final geographic scope of analysis for each resource affected by Georgia Power’s proposal in its environmental document pursuant to the National Environmental Policy Act (NEPA).

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<sup>1</sup> On February 14, 2019, FERC extended the comment period to March 4, 2019 due to the government shutdown.

**Table 4 Summary of Comments/Applicable Studies**

Date	Commenter	Summary of Comments	Study or Information to Address the Comment
02/5/2019	Tim Retzlaff, Opelika, AL	Removal of the dams will lower the water level. The sections that are shallow now will be dry.	H&H Modeling study
02/5/2019	Brant Duncan, LaGrange, GA	Many of the marine life would be adversely affected by the removal of these dams; sediments would also be an issue	Existing information on sediments; Existing information on aquatic resources. Mussel Study and Shoal Bass Literature Review Study and H&H Modeling study
02/19/2019	Mitchell Smallwood, Lanett, AL	Removing the dams will drop the water to a level unsustainable for boats to recreate.	H&H Modeling study
02/20/2019	Larry Bryant, Carrollton, GA	Suggests delaying removal of the dams to redesign them to benefit the wider range of thriving fish populations, especially the indigenous Shoal Bass species, and otherwise develop a compromise dam removal plan.	H&H Modeling study
02/20/2019	James Sorrells, Valley, AL	If the dams are removed, the fishing that everyone knows and enjoys on this stretch of the river will cease to exist.	Existing fisheries information; Shoal Bass Literature Review Study
02/20/2019	Chattahoochee Water Supply District	<p>The surrender of the permit will require changes to be made to the District's infrastructure. This will negatively impact the citizens of Chambers County as the costs for the new infrastructure will ultimately be absorbed by the customer/consumer. Water Quality may be affected.</p> <p>The Chattahoochee River's flow and depth has a direct impact on the District. Flow and river depth determine the rate at which raw water can be pumped from the river intake to provide adequate water supply to the citizens. Any changes to the depth and flow of the river will have a detrimental impact on the ability of the District to provide water to the citizens.</p> <p>Further, the costs associated with the raw water intakes is a strong consideration.</p>	H&H Modeling study; Water Quality Study; existing information on water withdrawals and discharges
02/21/2019	Anthony Caldwell, Valley AL	Removal of the Langdale and Riverview Dams will change the communities around it forever.	
02/22/2019	East Alabama Water, Sewer, Fire District	Removal will affect wastewater discharge.	Existing information on water withdrawals and discharges

02/24/2019	Kathy Maynard, Lanett, AL	After viewing the proposal to destroy both of these dams, I have to protect my property and my family's heritage. This land has been in my family for 5 generations now and taking these dams out will make our property almost worthless. We have enjoyed the river frontage, and the fishing from our land, and if this is done, we will be left without water access from our property.	H&H Modeling study; existing information on public access
02/25/2019	Peter Hand Board Member of Chattahoochee Foundation	The Chattahoochee Foundation envisions broad recreational and nature-based educational use in the 22 miles of the Chattahoochee River from West Point Dam to Lake Harding and possibly beyond. We also envision linking indoor aquatic recreation at Wolf Creek Lodge in LaGrange, GA, with the 22-mile "run-of-the-river" Blueway and then on to the successful Columbus, Georgia whitewater venue.	Existing information on public access and recreational activities
02/25/2019	Lanny Bledsoe, Valley AL	My land will be adversely affected.	H&H Modeling study
02/27/2019	Georgia Department of Natural Resources Wildlife Resources Division (WRD)	Georgia Power has been in consultation with WRD regarding the decommission and removal of these projects and we support the proposed studies and actions. The removal of these projects is expected to restore connectivity and riverine characteristics in this reach of the Chattahoochee River benefiting fish, wildlife and aquatic resources. The WRD will remain engaged in this process, evaluate study results to better understand the potential range of conditions resulting from this project, provide substantive comment and request additional studies, as needed.	N/A
03/01/2019	Travis Carter, Valley, AL	I believe removing the dams and restoring this stretch of river to its original state would have multiple positive effects. I believe the river would be safer and more enjoyable and likely attract more people to the area to enjoy its natural beauty. I also believe in the long run, this would be beneficial to fishing.	N/A
03/01/2019	James Cantrell President of Chattahoochee Foundation	I along with most all of the citizens of the communities bordering the Chattahoochee River are vitally interested in the river's future. Specifically, the 23-mile run of the river from the West Point Dam to Lake Harding is of great interest and concern with the changes being brought by Georgia Power's decommissioning of the Langdale and Riverview Hydro plants.	N/A

03/04/2019	Kendall J Andrews, Valley, AL	<p>I would like to note that at this time the hydrologic survey contracted by Georgia Power has not been completed and released. Without the information from the survey, comments from every submitter should be considered opinion-based. I do not oppose decommissioning but do oppose dam removal. A major concern that I have is that if the dams are removed, access to the river will be lost. As a river front property owner, I stand to lose a great deal with the removal of the dams. The location of my property is in an area that will possibly be the most negatively affected. Georgia Power should do a sediment studies. Requests that the Commission re-open the comment period after the hydraulic survey has been completed. This will allow all stakeholders to have a better understanding of the magnitude of the effects removing these dams will have.</p>	H&H Modeling study
03/04/2019	Chris Funk, Smiths AL	<p>The dams are an integral part in our fishing and enjoyment of the river giving places for the fish to congregate and lay eggs in spring that will not be washed away by the current.</p>	Existing information on fisheries resources



03/04/2019	Chattahoochee River Keeper	<p>CRK generally supports barrier free creeks, stream and rivers. Removing barriers reduces liability, enhances connectivity for aquatic species, and provides safe recreational opportunities. Georgia Power's proposed removal will ultimately result in a natural streambed (as opposed to a manufactured streambed); therefore, it should improve aquatic function. Georgia Power should make Shoal Bass habitat restoration a priority this section of the Chattahoochee River. A robust and transparent study of flow and hydrodynamics must be completed and publicly released to ensure enough flow will remain in the river for municipal water supply and wastewater assimilation. The proposed barrier removals will result in a more-flashy and less regular stream flow that could be a problem for municipalities' raw water supply withdrawal points and the East Alabama Water, Sewer and Fire Protection District's wastewater discharge. There are other wastewater discharges—including West Point (Ga.), Lanett (Al.), and inflow from Long Cane Creek (which supports multiple wastewater discharges in Georgia)—that must also be considered when evaluating comprehensive assimilative capacity for this stretch of the Chattahoochee River. Second, a more detailed analysis of the amount and necessary management of legacy sediment may be necessary. CRK would support retention of some elements of the dams for cultural and historic purposes if reasonable, feasible, and safe.</p>	H&H Modeling study; existing information on water withdrawals and discharges
03/05/2019	Jody Simms, Lanett AL	<p>Please reconsider the breaching of these dams, it will ruin a whole community way of life and devastate the Shoal Bass population.</p>	Shoal Bass Literature Review study

03/05/2019	Alan Simmons, Opelika,	<p>This specific stretch of the Chattahoochee River is a highly diverse ecosystem that teems with life. It is arguably the most diverse portion of the river as there are thriving populations of Striped, Largemouth, Spotted, and native Shoal bass amongst many other species.</p> <p>Ramps are many people's lifeline to the river. The removal of these dams will not only limit access to those that fish by boat but will inhibit even the best kayak anglers. The river will be inundated with rocky, shallow water that will be grueling to navigate. Not only will it make the river less navigable, but the removal of these dams will likely eliminate the newly provided public access, ultimately wasting tax payer's dollars. The removal of these dams would directly impact the amount of fishing and other non-paddling recreational activities on the river. The removal of these dams will eliminate access to an already thriving population of sport-fish. Removing these dams will likely eliminate public access to these already thriving stretches of river.</p>	Shoal Bass Literature Review study; H&H Modeling study and existing information on public access and recreation
3/5/2019	Donavon Carroll, Valley, AL	<p>If anything it should be designated as a no harvest zone for Trophy Shoal Bass. This is a unique habitat, a cradle for them and must be protected. The dams are the most protection they have due to the Riverine Habitat. To even consider busting these dams for the gain of money is an outrage, and nothing has been scientifically proven for it to be better for the environment.</p> <p>Comment on Dredging: Your purposing to unleash over 100 years of this sediment into Lake Harding. I don't think that people that live on or use Lake Harding have taken into consideration that they do not have a shipping channel that is regularly dredged in other words all of this will be deposited into the lake. After looking At the sediment flow estimates for Columbus I did not see any Factors that the river channel just downstream is constantly dredged for the shipping channel. In other words Lake Harding won't have that luxury. Why has this not been addressed to the public.</p>	Shoal Bass Literature Review study; existing information on sediment

3/5/2019	Paige Thorn	The draft for decommissioning Plan should stay with the building of portages around the dams. They can have the connection for kayakers and also not disrupt the animal habitat that made this their home and are thriving due to the already perfect conditions surrounding them. Please help us save this area. We don't want it to be like Phenix City. It would be a wastewater overflow. Please don't take my life away by taking everything great this place already has and De-commissioning It.	Existing information on recreation access
3/5/2019	Turner Hunt, Muscogee (Creek) Nation	Archaeological Surveys will need to be conducted downstream to determine the impact of dam removal would have to downstream sites by an SOI qualified archaeologist. Monitoring will need to occur for a period time encompassing high water and low water to determine if cultural resources are exposed or have the potential to be impacted.	Cultural Resources Study; H&H Modeling Study
3/5/2019	Michael S. Finlay	When they break Riverview it will drop the river on the West side down so low it will lead to under cutting of my bulk headwall and increase the "vertical erosion" by dropping the power pool level below the base of my wall...We have a one of a kind stretch of river with some of the finest fishing is the Southeastern US that will be destroyed if you let Georgia power take our dams down!!	H&H Modeling Study; existing information on fisheries

- 5) *Please provide an update of your consultation efforts with the Alabama and Georgia SHPOs as the Commission's non-federal representative, and a plan and schedule for the development of an appropriate mitigation mechanism, such as a draft MOA, if needed, to address potential effects on historic and cultural resources.*

Georgia Power consulted with both the Georgia Department of Natural Resources Historic Preservation Division and the Alabama Historic Commission. Based on previous surveys conducted during the last relicensing for these facilities, all National Register-eligible resources are located in the state of Georgia. The results of the Cultural Resources Study and Decommissioning Plan will help identify specific impacts to historic and cultural resources. Ongoing consultation with the agencies will help determine appropriate mitigation for any impacts and a plan and schedule for mitigation will be documented. Georgia Power will continue to work with both SHPOs and provide an update on the consultation in the decommissioning plan filed in December 2019.

If you require further information, please contact me at 404.506.7219.

Sincerely,

A handwritten signature in cursive script that reads "Courtenay R. O'Mara".

Courtenay R. O'Mara, P.E.  
Hydro Licensing and Compliance Supervisor

ATTACHMENT A – LANGDALE AND RIVERVIEW PROJECTS PROPOSED STUDY PLAN

**ATTACHMENT A  
LANGDALE AND RIVERVIEW PROJECTS  
PROPOSED STUDY PLAN**



# **Proposed Study Plan**

## **Langdale and Riverview Hydroelectric Projects FERC Project Numbers 2341 & 2350**

Prepared with:

Southern Company Generation Hydro Services

and

***Kleinschmidt***

May 2019

**LANGDALE AND RIVERVIEW HYDROELECTRIC PROJECTS  
FERC PROJECT NUMBERS 2341 & 2350**

**TABLE OF CONTENTS**

1.0	INTRODUCTION .....	1-1
1.1	Document Organization.....	1-5
1.2	Stakeholder Consultation.....	1-5
1.3	Relationship of the Resource Studies to the Decommissioning Plan.....	1-5
2.0	Hydraulic and Hydrologic Modeling.....	2-1
2.1	Introduction .....	2-1
2.2	Goals and Objectives .....	2-1
2.4	Study Area .....	2-1
2.5	Methodology.....	2-1
2.6	Reporting .....	2-3
2.7	Schedule.....	2-3
3.0	Mussel Survey .....	3-1
3.1	Introduction .....	3-1
3.2	Goals and Objectives .....	3-1
3.3	Study Background .....	3-1
3.5	Methodology.....	3-2
3.6	Reporting .....	3-3
3.7	Schedule.....	3-3
3.8	References .....	3-3
4.0	Shoal Bass Literature Review sTudy.....	4-1
4.1	Introduction .....	4-1
4.2	Goals and Objectives .....	4-1
4.3	Study Background .....	4-1
4.3.1	Issues Identified.....	4-1
4.4	Study Area .....	4-2
4.5	Methodology.....	4-2
4.6	Reporting .....	4-2
4.7	Schedule.....	4-2

**TABLE OF CONTENTS (Continued)**

4.8	References .....	4-2
5.0	Water Quality.....	5-1
5.1	Introduction .....	5-1
5.2	Goals and Objectives .....	5-1
5.3	Study Background .....	5-1
5.4	Study Area .....	5-2
5.5	Methodology.....	5-2
5.6	Reporting .....	5-3
5.7	Schedule.....	5-3
5.8	References .....	5-4
6.0	Cultural Resources.....	1
6.1	Introduction .....	1
6.2	Goals and Objectives .....	1
6.3	Study Background .....	1
6.4	Study Area .....	2
6.5	Methodology.....	2
6.6	Reporting .....	3
6.7	Schedule.....	3
6.8	References .....	3

**TABLES**

<b>TABLE 1-1</b>	<b>PROPOSED STUDY IMPLEMENTATION MASTER SCHEDULE FOR THE PROJECTS .....</b>	<b>1-6</b>
<b>TABLE 3-1</b>	<b>FISH AND MUSSEL SPECIES WITH STATE OR FEDERAL CONSERVATION STATUS IN CHAMBERS COUNTY, AL AND HARRIS COUNTY, GA.....</b>	<b>3-2</b>
<b>TABLE 5-1</b>	<b>LIST OF MONTHLY WATER CHEMISTRY PARAMETERS AND ANALYTICAL METHOD .....</b>	<b>5-3</b>

**FIGURES**

<b>FIGURE 1-1</b>	<b>MIDDLE CHATTAHOOCHEE RIVER BASIN EXISTING DAMS.....</b>	<b>1-3</b>
<b>FIGURE 1-2</b>	<b>LANGDALE AND RIVERVIEW PROJECT LOCATIONS .....</b>	<b>1-4</b>



## ACRONYMS AND ABBREVIATIONS

ADCNR	Alabama Department of Conservation and Natural Resources
ADEM	Alabama Department of Environmental Management
AIR	additional information request
ALSHPO	Alabama State Historic Preservation Officer
BOD	Biological Oxygen Demand
cfs	cubic feet per second
Commission	Federal Energy Regulatory Commission
DO	dissolved oxygen
EPA	U.S. Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
fps	feet per second
F&W	Fish and Wildlife
GASHPO	Georgia State Historic Preservation Officer
GDNR	Georgia Department of Natural Resources
GEPD	Georgia Environmental Protection Division
Georgia Power	Georgia Power Company
GPS	Global Positioning System
HAER	Historic American Engineering Record
HEC-RAS	Hydrologic Engineering Center River Analysis System
H&H	Hydrologic and Hydraulic
HPD	Historic Preservation Division
kW	kilowatt
NBBI	Native Black Bass Initiative
NRPH	National Register of Historic Places
NEPA	National Environmental Policy Act
PSP	Proposed Study Plan or Study Plan
PWS	Public Water Supply
RM	river mile
SARP	Southeast Aquatic Resources Partnership
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey

**LANGDALE AND RIVERVIEW HYDROELECTRIC PROJECTS**  
**FERC PROJECT NUMBERS 2341 & 2350**

**1.0 INTRODUCTION**

Georgia Power Company (Georgia Power) is filing with the Federal Energy Regulatory Commission (FERC or Commission) this Proposed Study Plan (PSP or Study Plan) in support of the license surrender and decommissioning of the Langdale Project (FERC No. 2341) and the Riverview Project (FERC No. 2350) (the Projects). Concurrent with this filing, Georgia Power is providing this Study Plan to agencies and the public (stakeholders) for a 30-day review and comment. Stakeholders should file their comments with FERC on or before June 24, 2019.

**Langdale Project**

The Langdale Project is located on the Chattahoochee River, adjacent to the City of Valley, Alabama, along the border of Georgia and Alabama. The Langdale Project is located approximately 9.5 river miles downstream of the U.S. Army Corps of Engineers (USACE) West Point Dam (RM 201.4), which began operation in 1976 and regulates the flow through the Middle Chattahoochee River region.

The Langdale Project was constructed between 1904 and 1908 and purchased by Georgia Power from West Point Manufacturing Company in 1930. Over time, the four horizontal generating units developed maintenance problems, and eventually were no longer operable or repairable. Generation records suggest that Georgia Power stopped operating the horizontal units in approximately 1954. The horizontal units were officially retired in 1960, leaving only the two 520 kilowatt (kW) vertical units operating at the Langdale Project; these two units remain in place in the powerhouse but have not operated since 2009. The Langdale Project previously operated as a run of river project.

**Riverview Project**

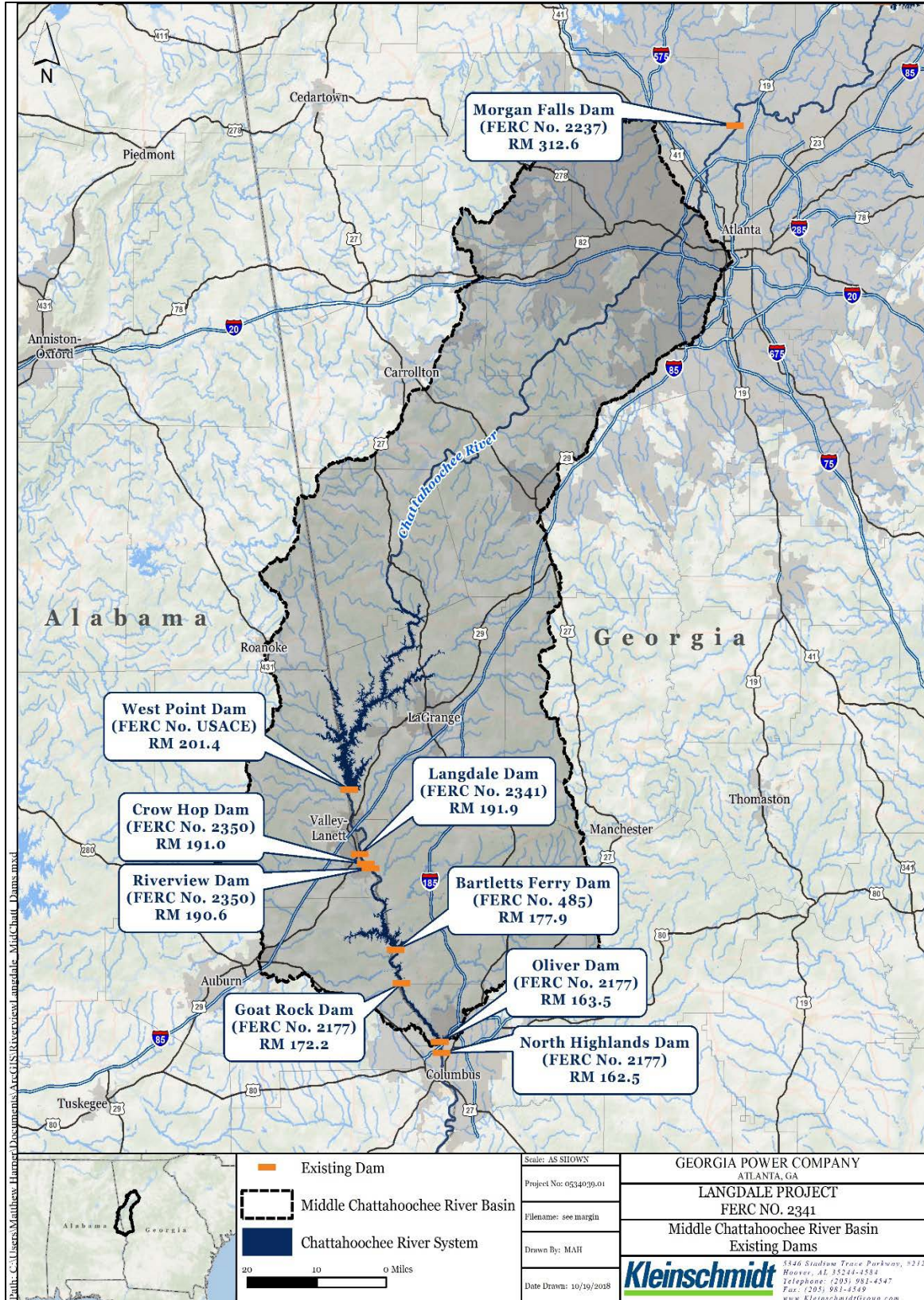
The Riverview Project is located approximately at river mile (RM) 191.0 (Crow Hop Diversion Dam) and RM 190.6 (Riverview Dam) on the Chattahoochee River, downstream of the City of Valley, Alabama and in Harris County, Georgia (**Figure 1-1**). The Project is located approximately 10.5 RM downstream of the U.S. Army Corps of Engineers (USACE) West Point Project and 0.9 RM downstream of the Langdale Project.

The Project consists of two separate dams, Riverview Dam and Crow Hop Diversion Dam (Crow Hop Dam), and a powerhouse with generating equipment located on the western abutment of Riverview Dam. Crow Hop Dam is the upstream dam and is situated across the main river, diverting flow into a headrace channel between an island and the western bank.

The headrace channel is approximately 1-mile-long. Riverview Dam and the powerhouse are located at the lower end of this headrace channel (**Figure 1-2**). The Project was constructed in several phases. The smaller downstream dam was constructed in 1906 for West Point Manufacturing Company. Originally, the dam diverted water into the adjacent mill building to provide power for mill operation. The existing powerhouse was built in 1918 and houses two 240 kilowatt (kW) generating units. Crow Hop Dam was constructed in 1920. Georgia Power purchased the Riverview Project from West Point Manufacturing Company in 1930 and began operating the two generating units. Over time, the units developed maintenance problems, and eventually were no longer operable or repairable. Georgia Power stopped operating the units in 2009. The Riverview Project previously operated as a run of river project.

Georgia Power filed applications for license surrender for the Projects with FERC on December 18, 2018, in accordance with the Commission's regulations at 18 C.F.R. § 6.1 and 6.2. The licenses for the Projects expire on December 31, 2023.

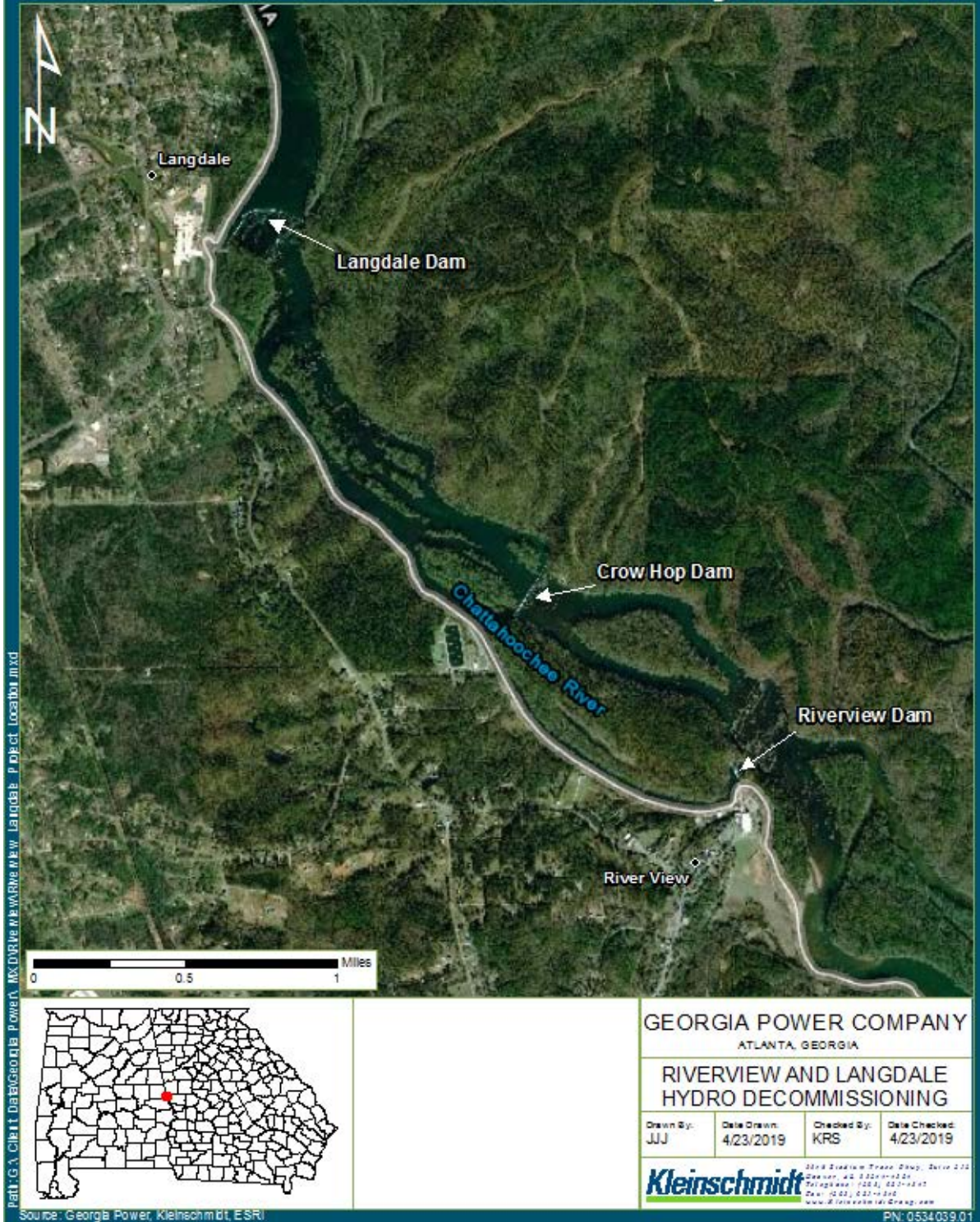
On April 11, 2019, FERC issued an additional information request (AIR) regarding decommissioning studies proposed by Georgia Power. As part of its response, Georgia Power is filing this PSP to provide more information on the studies Georgia Power proposes to conduct to support its surrender applications for the Projects.



**FIGURE 1-1 MIDDLE CHATTAHOOCHEE RIVER BASIN EXISTING DAMS**



# Project Location



**FIGURE 1-2 LANGDALE AND RIVERVIEW PROJECT LOCATIONS**

## **1.1 Document Organization**

Sections 2 through 6 present 5 study plans by topic/resource area. Each study plan describes the goals and objectives, study background, study area, methodology, reporting, and study schedule, which includes a study report and public comment period. For the cultural resources study, the State Historic Preservation Offices have identified resource agency goals. The PSP includes:

- **Section 2** – Hydrologic and Hydraulic (H&H) Modeling Study
- **Section 3** – Mussel Survey Study
- **Section 4** – Shoal Bass Literature Review Study
- **Section 5** – Water Quality Study
- **Section 6** – Cultural Resources study

## **1.2 Stakeholder Consultation**

Georgia Power proposed these studies in its applications for surrender. On April 11, 2019, FERC requested that Georgia Power provide additional information about each of the studies. In addition to those studies proposed in the surrender applications, Georgia Power developed a Shoal Bass Literature Review Study based on the comments received on the applications.

**TABLE 1-1** provides the master schedule for all proposed studies. Georgia Power will communicate with all participants by e-mail, mail, and/or the project website, to ensure notification of the availability of the study reports in a timely and efficient manner. Upon filing with FERC, the study reports will be made available electronically for stakeholder review on the Internet at both Georgia Power’s Langdale and Riverview License Surrender Website and FERC’s website (using the eLibrary feature):

<https://www.georgiapower.com/company/energy-industry/generating-plants/langdale-riverview-projects.html>

<http://www.ferc.gov/docs-filing/elibrary.asp>

## **1.3 Relationship of the Resource Studies to the Decommissioning Plan**

Each resource study will culminate in the preparation of a study report (**TABLE 1-1**). Georgia Power will provide a 30-day public review and comment period on the study reports. Those studies occurring in 2019 will provide information to be used to develop the Decommissioning Plan.

FERC will use the study results and information about the Projects, along with its environmental, engineering, and economic analyses, to make a public interest determination and to finalize its decision on Georgia Power’s surrender applications. FERC’s National Environmental Policy Act (NEPA) document will be issued for public review and comment and will include FERC’s determination regarding reasonable and feasible alternatives and cumulative impacts as part of its analysis pursuant to NEPA.

Common terms used in the PSP include Project Boundary and Project Area. The term “Project Boundary” is that area defined in the project’s license issued by FERC outlining the geographic area needed for project operations and maintenance. The “Project Area” refers to the land and water in the FERC Project boundary and immediate geographic area adjacent to the Project boundary.

**TABLE 1-1 PROPOSED STUDY IMPLEMENTATION MASTER SCHEDULE FOR THE PROJECTS**

<b>Activity</b>	<b>Start Date</b>	<b>Completion Date or Deadline</b>
Conduct Studies		
Hydraulic & Hydrologic (H&H) Modeling	May 2019	December 2019
Water Quality (WQ)	May 2019	December 2019
Shoal Bass Literature Review (SB)	May 2019	December 2019
Public Review and Comment on H&H, WQ, SB	December 2019	January 2020
Study reports		
Mussel Survey**	October 2020	Post-Dam Removal
Cultural Resources**	May 2020	Post-Dam Removal
Public Review and Comment on Mussel Study Report	prior to Dam Removal	prior to Dam Removal
Public Review and Comment of Cultural Study Report***	Post dam removal	Within 6 months of dam removal
File Final Decommissioning Plan	NA	December 2019

\*\*The proposed completion dates are dependent on FERC approval of the Decommissioning Plan and the actual timing of dam removal. All fieldwork that occurs post-dam removal is projected to be complete within six months (depending on the season and weather).

\*\*\* The Cultural Resources Study Report will be filed at FERC as privileged information; therefore, some or all of the report may not be distributed to general stakeholders.

## **2.0 HYDRAULIC AND HYDROLOGIC MODELING**

### **2.1 Introduction**

Georgia Power proposes to develop a steady-state Hydrologic Engineering Center River Analysis System (HEC-RAS) model of the Chattahoochee River from approximately 1 mile upstream of the Interstate 85 Bridge downstream to the headwaters of the Bartletts Ferry reservoir, Lake Harding. A principal element of the study will be evaluating the lateral extent of the Chattahoochee River affected under various dam breach alternatives to determine a preferred dam removal proposal for the Decommissioning Plan.

### **2.2 Goals and Objectives**

A hydraulics model of the study area is necessary to understand how the river (elevations, widths, flow velocity, etc.) may change with removal of all or portions of the dams. The model will focus on base flow conditions but will also be able to evaluate other flow events. Removal of a part or all of the dams will not alter the flow regime in this stretch of the river because it is driven by the upstream USACE West Point Dam discharges. The Projects, when operated historically, were run of river projects.

### **2.4 Study Area**

The anticipated study area on the Chattahoochee River will extend from approximately one mile upstream of the Interstate 85 bridge downstream through Langdale and Riverview Projects to the headwaters of Lake Harding (Bartletts Ferry Hydroelectric Project reservoir) (FIGURE 1-1).

### **2.5 Methodology**

The goal of this study is to evaluate various dam removal alternatives for the Langdale, Crow Hop, and Riverview Dams on the Middle Chattahoochee River.

The objective of this study is to evaluate the effects of several different dam removal schemes. These include:

- Existing Conditions (no removal of any dams)
- Removal of Crow Hop, Riverview, and Langdale Dams (in their entirety)
- Removal of Crow Hop and Riverview Dams; Langdale Dam to remain
- If the Riverview channel does not remain wetted as it currently exists in the first two scenarios, evaluate the removal of Crow Hop and Langdale Dams with Riverview to remain.



- Partial removal of Crow Hop Dam and Langdale Dam.
- All modeling schemes will be run with a 520 foot pool elevation for Lake Harding (mid-point of the operating range) to check the backwater effects through the reach.

For hydraulic modeling, the following existing information will be used for the study:

- Existing Langdale and Riverview dam as-built data, existing Lake Harding HEC-RAS Model.
- Peak flow hydrology developed for West Point Dam.

<b>West Point Operations</b>	<b>Total Flow (cfs)</b>
Base flow unit	680
Base plus one unit	9,280
Base plus two units	16,080
Maximum generation	19,000
“Action” stage	34,000
Flood stage	46,000

- Multiple field collected cross sections and two-dimensional point array survey data were collected by Lowe Engineering to develop HEC-RAS model terrain data.
- HEC-RAS Version 5.0.7 will be used to efficiently evaluate the differences between various dam removal schemes. The HEC-RAS model will consist of both 1-D reaches and 2-D areas, fully coupled for the entire simulation. The model will be a steady flow model but will use the unsteady flow engine in HEC-RAS to take advantage of the 2D modeling components (which only work in unsteady flow).
- When quantifying the resulting wetted areas, the level of detail needs to be consistent with the level of detail of the survey data. Therefore, additional cross section and 2D point array data were collected for inclusion into the HEC-RAS model.
- Several plans will be set up in the HEC-RAS model to evaluate different dam removal schemes in comparison to one another. Each breach or partial dam removal scenario will be evaluated with several different West Point dam operating flows. The base flow will be closely evaluated for wetted area in the river and side channels adjacent to the Projects.
- A plan will be created to evaluate partial and total breaches.
- Once HEC-RAS modeling is complete, maps will be prepared to demonstrate expected wetted area for various dam removal schemes. The maps will show inundated areas

and present color shading that represents different water depths. Plots will also be prepared to show the different water surface profiles that are expected for each dam removal scheme.

## **2.6 Reporting**

Initial modeling results will be compiled and presented at a public meeting in late summer 2019. Stakeholders will have 30 days following the meeting to comment on the meeting materials. A study report will be prepared and filed with FERC following completion of the study and concurrent with filing the Decommissioning Plan in December 2019. Stakeholders will have 30 days to review and comment on the H&H Study Report.

## **2.7 Schedule**

In accordance with the master schedule provided in Section 1.3, the H&H Study will be completed and its results shared in a public meeting in late summer 2019. A H&H study report will be distributed with the Decommissioning Plan in December 2019. Stakeholders will have 30 days from the date the Decommissioning Plan is filed with FERC to review and comment on the H&H study report.

## **3.0 MUSSEL SURVEY**

### **3.1 Introduction**

Georgia Power is proposing to conduct a mussel survey on the Chattahoochee River in the immediate areas downstream of Langdale, Riverview and Crow Hop Dams where localized construction activity is proposed to effectuate dam removal. This study will be implemented prior to dam removal.

### **3.2 Goals and Objectives**

The goal of this study is to characterize the existing mussel community in the immediate downstream vicinity of the dams using field surveys. The results of the study will allow Georgia Power to modify instream construction activities to prevent impacts to existing populations of freshwater mussels.

### **3.3 Study Background**

#### **3.3.1 Issues Identified**

There is potential for impacts to freshwater mussel species. Impacts may include increased localized turbidities and physical injury to freshwater mussels during construction.

#### **3.3.4 Existing Information**

There are nine mussel species that are currently listed as having some level of conservation status in both Chambers County, Alabama, and Harris County, Georgia (**TABLE 3-1**). This includes seven mussel species that are listed as federally threatened or endangered or are currently candidates for such listing. A single individual of the Delicate spike, a Georgia state-listed endangered species, was collected during 2009 and 2010 surveys in the Riverview shoals at the upstream end of the Bartletts Ferry Project (Georgia Power 2012). The Delicate spike is listed as imperiled for Harris County, Georgia and is a candidate species for listing under the Endangered Species Act.

**TABLE 3-1 FISH AND MUSSEL SPECIES WITH STATE OR FEDERAL CONSERVATION STATUS IN CHAMBERS COUNTY, AL AND HARRIS COUNTY, GA**

<b>Mussel Species</b>	<b>Scientific Name</b>	<b>Status</b>
Purple bankclimber	<i>Elliptoideus sloatianus</i>	Threatened (Federal), Imperiled (Georgia)
Oval pigtoe	<i>Pleurobema pyriforme</i>	Endangered (Federal)
Finelined pocketbook	<i>Lampsilis altilis</i>	Threatened (Federal)
Ovate clubshell	<i>Pleurobema perovatum</i>	Endangered (Federal)
Gulf moccasinshell	<i>Medionidus penicillatus</i>	Endangered (Federal), Critically Imperiled (Georgia)
Southern elktoe	<i>Alasmidonta triangulata</i>	Under Review (Federal), Critically Imperiled (Georgia)
Delicate spike	<i>Elliptio arctata</i>	Under Review (Federal), Imperiled (Georgia)
Alabama spike	<i>Elliptio arca</i>	Imperiled (Alabama)
Sculptured pigtoe	<i>Quadrula cylindrica</i>	Critically Imperiled (Alabama) Vulnerable (Georgia)

### **3.4 Study Area**

The proposed study area includes the Chattahoochee River in the immediate areas downstream of Langdale, Riverview and Crow Hop Dams, as determined in consultation with the U.S. Fish and Wildlife Service (USFWS).

### **3.5 Methodology**

Georgia Power previously conducted freshwater mussel surveys in the study area during August 1992 (EA Engineering 1992). Georgia Power will procure the services of a qualified contractor to conduct a mussel survey prior to dam removal. The field survey will be conducted by a team of biologists experienced in mussel collection. Searches will be conducted during daylight hours and under suitable, safe river flow conditions.

Substrates most suitable for potential occurrence of freshwater mussels will be surveyed. The degree of change in suitable mussel habitats from 1992 to present is not known. Rather than replicating searches along certain transects used in 1992, exact habitat-based search areas will be selected in the field based on visual determination of suitable and preferred mussel habitats.

Search efforts of each individual searcher will be documented. The survey may include a variety of survey methods, tailored to site-specific conditions for depth, accessibility, and water clarity to search for live mussels (and relict shells) where suitable habitat is encountered. Search methods may include visual observations while wading, hand grubbing while on hands

and knees, snorkeling, SCUBA, surface-supplied air in deeper water. Divers will follow all applicable safety regulations.

The survey will record observations of live mussels and shells of dead mussels. All occurrences of state and federally protected species of mussels will be documented using hand-held GPS (Global Positioning System) units. Photographs will be taken of representative live specimens of each protected species or species of concern collected. Live mussels will be returned unharmed to appropriate habitats in the area of collection. The surveyors will record field notes and general information about the survey area to include such information as the date and time of survey; individual survey capture, flow and velocity conditions; water clarity; depth and substrate composition; and bank and riparian zone condition.

Prior to the initiation of fieldwork, the mussel survey crew will submit a daily survey and dive plan to Georgia Power for overall safety diligence and awareness of upstream USACE West Point Dam operations for the day. The survey team will be equipped with a hand-held communication device and will be in constant contact with the field coordinator.

### **3.6 Reporting**

Study results will be summarized and presented in a study report, which will be filed with FERC upon completion of the study. Stakeholders will have 30 days to review and comment on the Mussels Survey Study Report.

### **3.7 Schedule**

In accordance with the master schedule provided in Section 1.3, the Mussel Survey will be completed prior to dam removal. Stakeholders will have 30 days from the date the report is filed with FERC to review and comment on the Mussels Survey Study Report.

### **3.8 References**

EA Engineering, Science and Technology, Inc. 1992. Protected species survey of the Chattahoochee River near the Langdale (FERC Project No. 2341) and Riverview (FERC Project No. 2350) Hydroelectric Facilities, West Point, GA. EA Engineering, Science, and Technology, 1900 Lake Park Drive, Suite 350. Smyrna, Georgia 30080.

Georgia Power Company (Georgia Power). 2012. Application to the Federal Energy Regulatory Commission for a License for Bartletts Ferry Project No. 485.

## **4.0 SHOAL BASS LITERATURE REVIEW STUDY**

### **4.1 Introduction**

Shoal Bass (*Micropterus cataractae*) are recognized as a high priority, rare species by both Alabama and Georgia. The species is a popular target for Chattahoochee River anglers in the vicinity of the Projects.

### **4.2 Goals and Objectives**

The goal of this study is to determine the potential effects of dam removal on Shoals Bass and their aquatic habitats in the study area.

### **4.3 Study Background**

#### **4.3.1 Issues Identified**

Several stakeholders have commented that the removal of the Projects would be detrimental to the Shoal Bass population in this reach of the Chattahoochee River. Shoal Bass are recognized as a high priority, rare species by both Alabama Department of Conservation and Natural Resources (ADCNR) and the Georgia Department of Natural Resources (GDNR) in their State Wildlife Action Plans due to factors including limited range and habitat fragmentation by dams. As such, the protection or enhancement of Shoal Bass populations through actions that increase their range and habitat connectivity are of particular interest to resource managers.

#### **4.3.2 Study Requests**

Georgia Power proposes to consult with resource experts through the Southeast Aquatic Resources Partnership's (SARP) Native Black Bass Initiative (NBBI) to conduct a literature review study and prepare a "white paper" discussing the potential effects of dam removal on Shoal Bass.

#### **4.3.4 Existing Information**

Shoal Bass are considered fluvial specialists and are typically found in medium to large rivers with rocky substrate and moderate to fast water velocities and are generally intolerant of impoundments. Shoal Bass spawn in shoal areas during the spring (April - May) and travel long distances to reach these habitats. Shoal Bass prey typically consists of crayfish, fish, and insects (Sammons et al. 2015).

Sammons (2011) collected 40 Shoal Bass in the headwaters of Bartlett's Ferry Reservoir (located approximately 1.3 RM downstream of Langdale Dam, near the toe of Crow Hop Dam). The proximity of these fish to the Project, and the similar habitat complexes that exist throughout this river reach (i.e., rocky shoal habitat), suggest that Shoal Bass would likely be found further upstream into the Project Area.

#### **4.4 Study Area**

The study area includes the Chattahoochee River from West Point Dam downstream through the Langdale and Riverview Projects to the headwaters of Lake Harding (Bartletts Ferry Hydroelectric Project reservoir).

#### **4.5 Methodology**

Significant research has been performed since the description of the Shoal Bass by Williams and Burgess (1999). This research will contribute to identifying and understanding effects of dams such as the Langdale and Riverview dams on the Shoal Bass. Georgia Power will develop a white paper summarizing the expected, general impacts of barrier removal on Shoal Bass within their native range. This effort will involve members of the NBBI, who encompass many of the professionals currently working on Shoal Bass research and management across state and federal agencies and academic institutions. This group is working on a draft version of a rangewide Shoal Bass management plan to guide conservation and restoration activities. Examples of references to be used in the study will be the Georgia, Alabama, and Florida State Wildlife Action Plans, articles from publications such as the North American Journal of Fisheries Management and the Journal of the Southeastern Association of Fish and Wildlife Agencies, and books such as *Black bass diversity: multidisciplinary science for conservation* by the American Fisheries Society. Additionally, unpublished data collected by resource agencies may be used to infer relevant, existing conditions across the range.

#### **4.6 Reporting**

A study report will be prepared and filed with FERC upon completion of the study. Stakeholders will have 30 days to review and comment on the Shoal Bass Study Report.

#### **4.7 Schedule**

In accordance with the master schedule provided in Section 1.3, the Shoal Bass study will be completed and a study report distributed with the Decommissioning Plan in December 2019. Stakeholders will have 30 days from the date the Decommissioning Plan is filed with FERC to review and comment on the Shoal Bass Study Report.

#### **4.8 References**

- Sammons, S.M. 2011. Habitat use, movement, and behavior of Shoal Bass, *Micropterus Cataractae*, in the Chattahoochee River near Bartletts Ferry Reservoir. Auburn University Department of Fisheries and Allied Aquaculture. February 28, 2011.
- Sammons, Steven M., K.L. Woodside, and C.J. Paxton. 2015. Shoal Bass *Micropterus cataractae* Williams & Burgess, 1999. American Fisheries Society Symposium 82:75-81.

Williams, J. D., and G. H. Burgess. 1999. A new species of bass, *Micropterus cataractae* (Teleostei: Centrarchidae), from the Apalachicola River Basin in Alabama, Florida, and Georgia. *Bulletin of the Florida Museum of Natural History* 42(2): 81-114.



## **5.0 WATER QUALITY**

### **5.1 Introduction**

The Chattahoochee River is used extensively and has been actively managed since the late 1800s. Historic and current uses of the river include flood control, hydroelectric power, recreation, and wastewater assimilation. The river's water quality has been impacted by municipal and industrial discharges and agriculture. The Chattahoochee River Basin, including the river, its tributaries, headwater streams, and underlying groundwater, is utilized for numerous purposes. Its waters are withdrawn to supply water for cities and counties, industry, and agriculture.

### **5.2 Goals and Objectives**

The goal of this study is to provide baseline water quality for the study area. The objective is to characterize study area water quality based on a summary of available relevant water quality data. In addition, Georgia Power proposes to consult with the USACE, as well as ADEM and EPD, respectively, regarding water quality information necessary for the USACE Clean Water Act (CWA) Section 404 permit(s) and the Sections 401 water quality certifications.

### **5.3 Study Background**

#### **5.3.1 Issues Identified**

Georgia Power will describe baseline water quality in the study area to provide information for CWA Sections 401 and 404 permit applications for dam removal.

#### **5.3.4 Existing Information**

Designated water uses are assigned by the state of Georgia to all surface waters. These classifications are scientifically determined to be the best utilization of the surface water from an environmental and economic standpoint. Georgia's use classification for the Chattahoochee River in the Project Area is "Drinking Water" (GAEPD 2016). The State of Alabama use classifications for the Chattahoochee River in the Project Area are "Public Water Supply" (PWS) and "Fish and Wildlife" (F&W) (ADEM 2017).

Water quality conditions in the Chattahoochee River basin, particularly in upstream West Point Reservoir and Long Cane Creek, have a direct effect on the Project's water quality. Project water quality parameters affected by influent water quality primarily include dissolved oxygen. Previously, the Chattahoochee River downstream of West Point was listed as impaired due to low dissolved oxygen levels in releases from West Point Dam. This reach is now attaining the dissolved oxygen standards and has been removed from the CWA Section 303(d) list of impaired waters.

Discharges from West Point Dam comprise 98 percent of the inflows to the Riverview Project, with the remaining 2 percent contributed by local runoff from the intervening watershed. Inflows into the Riverview Project are comprised of 98 percent of the discharges from West Point Dam, with the remaining 2 percent due to local runoff. A study performed in 2009 and 2010 (Georgia Power) documented water quality in the Chattahoochee River approximately 1 RM downstream of the Riverview powerhouse. Monthly vertical profile samples at this location indicated dissolved oxygen levels exceed applicable criteria. In addition to common parameters, the 2009-2010 study also involved the collection of monthly discrete water chemistry samples and analysis of these samples for 24 different parameters.

Between 2000 and 2013, the U.S. Geological Survey (USGS) and Georgia Environmental Protection Division (GEPD) conducted periodic monitoring on the Chattahoochee River approximately 7 RM upstream of Langdale Dam (Station No. 02339500), which is co-located with a USGS gage and is approximately 2 RM below West Point Dam and just above where the City of West Point begins. During this period, average monthly water temperatures ranged from a low of 8.47 degrees Celsius (°C) in February to a high of 27.67 °C in August. Monthly average dissolved oxygen levels were generally above 5 milligrams/liter (mg/L), except for September (4.94 mg/L). The USGS and GEPD monitoring results also indicated relatively low nutrient levels in the water, with average total nitrogen concentrations of 0.38 mg/L and average total phosphorus concentrations of 0.26 mg/L. Analysis of samples for fecal coliform bacteria, including E. coli indicated that pathogens were well below acceptable limits (GEPD 2018, USGS 2018).

#### **5.4 Study Area**

The study area includes the Chattahoochee River from the Project Boundary for Langdale and Riverview Projects, which includes the Langdale pool downstream through Riverview, to the headwaters of Lake Harding (Bartletts Ferry Hydroelectric Project reservoir).

#### **5.5 Methodology**

The primary data source will be Georgia EPD via its recently released (May 2019) public data portal (<https://gomaspublic.gaepd.org>). EPD's ambient water quality monitoring program data will be included in the information summary and characterization of water quality. A desktop search will be conducted for other current, relevant study area water quality data and information. EPD's recent water quality samples collected upstream of the study area included parameters shown in **TABLE 5-1**.

**TABLE 5-1 LIST OF MONTHLY WATER CHEMISTRY PARAMETERS AND ANALYTICAL METHOD**

<b>Parameter (units)</b>	<b>Analytical Method<sup>a</sup></b>
Alkalinity (mg/L)	EPA 310.1
Total Suspended Solids (mg/L)	EPA 160.2
Turbidity (NTU)	EPA 180.1
Hardness (mg/L CaCO <sub>3</sub> )	SM 2340
Total Phosphorus (mg/L)	EPA 365.1
Nitrate + Nitrite (mg/L)	EPA 300.0
Total Kjeldahl Nitrogen	EPA 351.2
Ammonia (mg/L)	EPA 350.3
Biochemical Oxygen Demand (BOD) (mg/L)	EPA 405.1
Total Organic Carbon	EPA 415.3

<sup>a</sup>EPA (U.S. Environmental Protection Agency), Methods for Chemical Analysis of Water and Wastes; EPA SW-846, Test Methods for Evaluating Solid Waste – Physical/Chemical Properties; APHA-AWWA-WEF, Standard Methods (SM) for the Examination of Water and Wastewater.

mg/L = milligrams per liter; µg/L = micrograms per liter; CaCO<sub>3</sub> = calcium carbonate; NTU = Nephelometric turbidity unit

## **5.6 Reporting**

Georgia Power will prepare a study report summarizing available water quality information and file with the Decommissioning Plan. Stakeholders will have 30 days to review and comment on the Water Quality Study Report.

Georgia Power will continue consulting with USACE on the Section 401 permitting process. The 404 permit process, once complete, will initiate the 401 permit process.

## **5.7 Schedule**

In accordance with the master schedule provided in Section 1.3, the Water Quality Study will be completed and a study report filed with the Decommissioning Plan in December 2019. Stakeholders will have 30 days from the date the Decommissioning Plan is filed with FERC to review and comment on the Water Quality Study Report.

The 404 permit process will continue in 2020.

## 5.8 References

Alabama Department of Environmental Management (ADEM). 2017. ADEM Admin. Code r. 335-6-10 & 11. <http://adem.state.al.us/alEnviroRegLaws/files/Division6Vol1.pdf>. Accessed May 3, 2018.

Georgia Environmental Protection Division (GAEPD). 2016. Water Use Classifications and Water Quality Standards. Available: [http://epd.georgia.gov/sites/epd.georgia.gov/files/related\\_files/site\\_page/391-3-6.03%20Triennial%2013%20Final%20Edits.pdf](http://epd.georgia.gov/sites/epd.georgia.gov/files/related_files/site_page/391-3-6.03%20Triennial%2013%20Final%20Edits.pdf). Accessed May 3, 2018.

Georgia Environmental Protection Division (GAEPD). 2018. Watershed Protection Branch – Water Quality Database – Station RV\_12\_4067. <http://www1.gadnr.org/dnr/wrdb/homePage.do>. Accessed May 3, 2018.

United States Geological Survey (USGS). 2018. Water Quality Data Portal – Station ID USGS 02339500. <https://www.waterqualitydata.us/portal/>. Accessed May 3, 2018.

## **6.0 CULTURAL RESOURCES**

### **6.1 Introduction**

An archaeological resource inventory was conducted during the previous relicensing, resulting in the discovery and delineation of nine sites (Gardner et al. 1988). The seven historic sites include remains of a beached maintenance barge associated with the Langdale powerhouse, domestic and industrial dump sites, and staging/construction areas related to the dams. The two prehistoric resources are a Late Mississippian (Lamar) farmstead (9HS30) and a surface artifact scatter with undifferentiated Archaic and Lamar components (9HS31). Of the nine sites, only 9HS30 was recommended eligible for inclusion in the National Register of Historic Places (NRHP). A historic hydroengineering report was also prepared that documented the resources at the Langdale and Riverview stations (Hay 1989). Both plants were recommended eligible for the NRHP.

### **6.2 Goals and Objectives**

The goal of this study is to continue consultation with the Georgia State Historic Preservation Officer (GASHPO), the Alabama State Historic Preservation Officer (ALSHPO), and affected federally-recognized Tribes (Consulting Parties) on ways to avoid, minimize, and/or mitigate adverse effects to historic properties.

Specific objectives of this study are to:

- Determine need for additional information/documentation on known and unknown resources.
- Work with Consulting Parties to develop a plan to avoid, minimize, and mitigate adverse effects to Langdale and Riverview plants and site 9HS30; and
- Work with Consulting Parties to determine need for any continued management of resources retained by Georgia Power.

### **6.3 Study Background**

#### **6.3.1 Issues Identified**

Effects to recorded historic properties (power plants, site 9HS30) as well as impacts to any unrecorded historic properties (e.g., fish traps/weirs).

#### **6.3.2 Study Requests**

Georgia Power proposes to consult with the GASHPO, ALSHPO, and federally-recognized Tribes to determine the need for additional information on the Project facilities (dam, powerhouse, appurtenant facilities). The Muscogee (Creek) Nation has also requested that the

riverbed be surveyed for any archaeological features that may be exposed as a result of lower water levels.

### **6.3.3 Resource Management Goals**

The Georgia Department of Natural Resources (GDNR) Historic Preservation Division (HPD) is Georgia's State Historic Preservation Office. *Georgia's State Historic Preservation Plan 2017-2021: Integrating Innovation with Preservation* is the guiding document for the state historic preservation program administered by HPD. Likewise, the Alabama Historical Commission's *Statewide Comprehensive Historic Preservation Plan* is the AHC's guiding document for the protection, preservation, and interpretation of Alabama's historic places. Resource management goals consistent with these plans and applicable to decommissioning the Projects include: preventing the unintentional disturbance of historic properties by planning for the use of protective measures in activities that may cause a disturbance of the site, and preserving the integrity of any historical structures of the Projects' dams and powerhouses and the historical information regarding the development of the Projects.

### **6.3.4 Existing Information**

Extensive cultural resource surveys have been conducted along the Chattahoochee River in the vicinity of the study area, from upstream West Point lake to downstream Columbus and Fort Benning. As referenced above, archaeological and historical/architectural studies were conducted for the Langdale and Riverview Projects during the previous relicensing. These investigations have generated a significant body of literature and developed a rich cultural context for evaluating prehistoric and historic resources in the study area. Additionally there is an existing Cultural Resource Management Plan.

## **6.4 Study Area**

The study area for cultural resources will include the Langdale and Riverview Project lands, affected shoreline and riverbed, and surrounding passageways needed for deconstruction of the dams.

## **6.5 Methodology**

Archaeological survey coverage of Langdale and Riverview project lands, referred to by Gardner et al. (1988) as Langdale Tracts 1&2 and Riverview Tracts 1-4, was thorough and systematic. Georgia Power, therefore, does not propose to conduct any additional survey in those areas. Our identification efforts will instead focus on any areas that may have been acquired since the previous survey, as well as shoreline and riverbed affected by the dam removals. For the shoreline/riverbed survey, we propose a two-stage effort. Prior to dam removal, the riverine reaches between Langdale and Crow Hop, as well as those between Crow Hop and Riverview, will be surveyed by boat and/or on foot during low flow to identify any rock weirs, fish traps, or similar features. Additionally, the entire reach of the Langdale and

Riverview Projects will be surveyed after the dams have been breached to identify and evaluate any cultural features exposed at lower water levels. Particular attention will be paid to those deeper areas (e.g., directly upstream of the dams) during this second phase of survey.

In addition to these efforts, we propose to conduct further evaluation of site 9HS31, the surface artifact scatter located on the bluff overlooking the east abutment of Crow Hop Dam. This site was recommended ineligible for listing in the NRHP by Gardner et al. (1988); however, for an unknown reason, it remained part of Georgia Power's annual site monitoring program over the term of the license. Evaluation efforts will focus on a final eligibility recommendation for the site and any further management considerations that may entail.

It is possible that equipment and material transport to and from the Project Area may impact a portion of site 9HS30, which has been determined eligible for listing in the NRHP. The potential for impact depends on which side of the river construction activities may originate from. If impacted, consultation, will inform any mitigation needs.

Documentation and evaluation of the Langdale and Riverview plants (Hay 1989) was also comprehensive. Georgia Power will work with the Consulting Parties to determine the level of Historic American Engineering Record (HAER) documentation that will be required to mitigate adverse effects to these historic properties.

## **6.6 Reporting**

A study report will be prepared and filed with FERC upon completion of the study; however, due to the sensitive information contained in cultural resource reports, all or portions of the Cultural Resources Study Report may be filed with FERC as privileged information and not available to general stakeholders.

## **6.7 Schedule**

In accordance with the master schedule provided in Section 1.3, the Cultural Resources Study will be completed six months following dam removal. Stakeholders will have 30 days from the date the report is filed with FERC to review and comment on the Cultural Resources Study Report.

## **6.8 References**

- Georgia Council of Professional Archaeologists. 2014. Georgia standards and guidelines for archaeological surveys. Revised April 2014. <http://georgia-archaeology.org/GCPA/wp-content/uploads/2007/05/GA-Arch-Standards-and-Guidelines-revised-April-2014.pdf>.
- Federal Energy Regulatory Commission (FERC). 1993. Order Issuing Subsequent License. Georgia Power Company – Langdale Project No. 2350. May 1993.

- Gardner, Jeffrey W., Ruth Ann Mitchell, and Paul Brockington. 1988. Documentation Langdale Hydroelectric Generating Project (FERC #2341), Riverview Hydroelectric Generating Project (FERC #2350), Chambers County, Alabama, and Harris County, Georgia. RI-I. Report on File – Georgia Power Company Land Department, Atlanta.
- Gardner, Jeffrey W. and Paul Brockington. 1988. Documentation Langdale Hydroelectric Generating Project (FERC #2341), Riverview Hydroelectric Generating Project (FERC #2350), Chambers County, Alabama, and Harris County, Georgia. RI-II. Report on File Georgia Power Company Land Department, Atlanta.
- Hay, Duncan E. 1989. Documentation, Langdale Hydroelectric Generating Project (FERC #2341), Riverview Hydroelectric Generating Project (FERC#2350), Harris County, Georgia. Report on file – Land Department, Georgia Power Company, Atlanta.
- Klima, Don L. 1993. Programmatic Agreement among the Federal Energy Regulatory Commission, The Advisory Council on Historic Preservation, and the Georgia State Historic Preservation Officer and Alabama State Historic Preservation Officer with the Concurrence of the Georgia Power Company, for the Management of Historic Properties Affected by the Langdale Hydroelectric Facility