



Southern Company Generation.
241 Ralph McGill Boulevard, NE
Bin 10193
Atlanta, GA 30308-3374
404 506 7219 tel

December 18, 2018

Langdale Project (FERC No. 2341)
Application for Surrender of Minor Project License

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Room 1-A – Dockets Room
Washington, DC 20427

Dear Secretary Bose:

On behalf of Georgia Power Company, Southern Company is filing with the Federal Energy Regulatory Commission (FERC) an application to surrender the minor project license for the Langdale Project in compliance with the Commission's regulations at 18 C.F.R. §§ 6.1 and 6.2. The current Langdale Project license expires December 31, 2023. This surrender application consists of this cover letter, the Notice to Intent to Surrender, Exhibit A, and Exhibit E (which contains the Draft Decommissioning Plan as an appendix).

The surrender application will be available through the FERC's e-library website, and, as requested, via email or U.S. mail. A complete hard copy of the surrender application will be available at the Southern Company street address provided in the letterhead. After January 7, 2019, copies of the surrender applications will be available at the H. Grady Bradshaw Library, located at 3419 20th Avenue, Valley, Alabama, 36854, in Chambers County, Alabama, and at the Troup-Harris Regional Library, located at 7511 Georgia Highway 116, Hamilton, Georgia, 31811 in Harris County, Georgia. If you have questions or comments, please feel free to contact me at 404.506.7219 or at cromara@southernco.com

Sincerely,

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

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

Attachments

cc: Mark S. Berry - Environmental and Natural Resources Vice President, Georgia Power
Herbie N. Johnson - Hydro General Manager, Southern Company Generation
Hallie M. Meushaw, Troutman Sanders
Kelly Schaeffer, Kleinschmidt
Wayne King, FERC ARO

Ms. Kimberly D. Bose
December 18, 2018
Page 2 of 4

cc (Cover Letter Only via certified mail)

American Indian Tribes List:

Alabama Coushatta Tribes of Texas
Jo Ann Battise, Chairperson
571 State Park Rd 56
Livingston, Texas 77315

Alabama Quassarte Tribal Town
Nelson Harjo, Chief
P.O. Box 187
Wetumka, Oklahoma 74883

Choctaw Nation of Oklahoma
Gary Batton, Chief
P.O. Drawer 1210
16th and Locust Street
Durant, Oklahoma 74702

Coushatta Indian Tribe
David Sicky, Chairman
P.O. Box 10
Elton, Louisiana 70532

Jena Band of Choctaw Indians
Cheryl Smith, Principal Chief
1052 Chanaha Hina Street
Jena, Louisiana 71342

Kialegee Tribal Town
Jeremiah Hobia, Town King
P.O. Box 332
Wetumka, Oklahoma 74883

Mississippi Band of Choctaw Indians
Phyliss J. Anderson, Chief
101 Industrial Rd.
Choctaw, Mississippi 39350

Muscogee (Creek) Nation of Oklahoma
Raelynn Butler, THPO
P.O. Box 580
Highway 75 and Loop 56
Okmulgee, OK 74447

Ms. Kimberly D. Bose
December 18, 2018
Page 3 of 4

Muscogee (Creek) Nation of Oklahoma
LeeAnne Wendt, Tribal Archeologist
P.O. Box 580
Highway 75 and Loop 56
Okmulgee, OK 74447

Muscogee (Creek) Nation of Oklahoma
Principal Chief James Floyd
P.O. Box 580
Highway 75 and Loop 56
Okmulgee, OK 74447

Poarch Band of Creek Indians
Stephanie A. Bryan, Tribal Chair
5811 Jack Springs Rd.
Atmore, Alabama 36502

Seminole Nation of Oklahoma
Mr. Greg Chilcoat, Principal Chief
P.O. Box 1498
Wewoka, Oklahoma 74884

Seminole Tribe of Florida
Mr. Marcellus W. Osceola Jr., Chairman
6300 Stirling Rd.
Hollywood, Florida 33024

Thlopthlocco Tribal Town
Ryan Morrow, Town King
P.O. Box 188
Okemah, Oklahoma 74859

cc (Cover Letter Only via email)

Other Stakeholder List:

American Rivers
Alabama Department of Conservation and Natural Resources
Alabama Department of Environmental Management
Alabama State Historic Preservation Officer/Alabama Historical Commission
Bureau of Land Management
Chambers County, Alabama
Chattahoochee River Conservancy
Chattahoochee Riverkeeper
Chattahoochee Valley Water Supply District
City of LaGrange, Georgia
City of Lanett, Alabama
City of Opelika, Alabama
City of Valley, Alabama
East Alabama Water Sewer and Fire Protection District
Georgia Department of Natural Resources - Environmental Protection Division
Georgia Department of Natural Resources - Wildlife Resources Division
Georgia Department of Natural Resources - Historic Preservation Division
Georgia Department of Natural Resources – Law Enforcement Division – Region 4
Georgia Wildlife Federation
Harris County, Georgia
Lake Harding Association
National Park Service – Rivers, Trails & Conservation Assistance Program
Opelika Utilities
Southeastern Aquatics Resources Partnership (SARP)
The Conservation Fund
The Nature Conservancy
The Trust for Public Land
U.S. Army Corps of Engineers – Mobile District
U.S. EPA Region 4 Water Protection Division
U.S. Fish and Wildlife Service – Region 4
U.S. Fish and Wildlife Service – Georgia Ecological Services Field Office

**Attachment 1
Langdale Project
Notice of Intent to Surrender
December 18, 2018**

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION
NOTIFICATION OF INTENT
LANGDALE PROJECT (FERC) No. 2341

Notice of Intent Not to seek a Subsequent License and Request for Designation as Non-Federal Representative and for Authorization to Initiate Consultation under Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act

I. NOTIFICATION OF INTENT

Georgia Power Company (Georgia Power) hereby notifies the Federal Energy Regulatory Commission (Commission or FERC) of its intent **not** to seek a subsequent license for the Langdale Project (Project). Georgia Power is filing an application to surrender the license and decommission the Project.

The following information is provided pursuant to Commission regulations.

1) THE LICENSE APPLICANT NAME AND ADDRESS:

Georgia Power
241 Ralph McGill Boulevard, NE
Bin 10193
Atlanta, GA 30308-3374
404.506.7219

2) PROJECT NUMBER:

Federal Energy Regulatory Commission (FERC) No. 2341

3) LICENSE EXPIRATION DATE:

FERC issued a subsequent license for the Project on May 24, 1993, which expires on December 31, 2023. Georgia Power is filing an application to surrender the Project license and decommission the Project.

4) APPLICANT'S STATEMENT OF INTENTION TO FILE OR NOT TO FILE AN APPLICATION FOR A NEW LICENSE:

Georgia Power hereby declares its intent **not** to apply for a new license for the Project. Georgia Power is filing an application to surrender the license and decommission the Project.

The Project liaison for all correspondence:

Ms. Courtenay O'Mara, P.E.
Hydro Licensing and Compliance Supervisor
Southern Company Generation
241 Ralph McGill Boulevard, NE
Bin 10193
Atlanta, Georgia 30308

Agent for Georgia Power:

Herbie Johnson
Hydro General Manager
Southern Company Generation
241 Ralph McGill Boulevard, NE
Bin 10193
Atlanta, Georgia 30308

5) PRINCIPAL PROJECT WORKS:

The Langdale Project consists of a dam, intake section, powerhouse, tailrace channel, and some miscellaneous equipment. A description of each is provided below.

Project Dam

Type	Concrete gravity - rubble/masonry - with free crested spillway
Length of Concrete Section	Total is 1,892 feet long; 1,362 feet long overflow spillway
Height	15 feet
Volume of Concrete in Spillway	9,460 cubic yards
Elevation	549.76 feet (msl) 547.65 feet (Plant Datum) Correction Factor = 2.11 feet
Discharge Capacity Over Spillway	See Figure 2.1, Spillway Discharge Curve

Project Intake Section

Type	Reinforced concrete Water-chest type; integrated with powerhouse
Number of Water Chests	6 Total – 2 active, 4 retired
Dimensions of Water Chests	Approximately 25 feet-wide by 19 feet-high by 30 feet long, each
Hydraulic Capacity	437 cfs per unit for a total of 874 cfs for the plant

Langdale Powerhouse

Type	Brick and mortar with reinforced concrete floor and roof; wood-framed shop area attached
Dimensions	Approximately 245 feet long (including the old shop area) by 35 feet wide by 30 feet high
Tailrace Channel Dimensions	Approximately 250 feet wide by 1,500 feet long
Elevation Drop	Approximately 1 foot from powerhouse to end of tailrace channel
Nameplate Capacity	1,040 kW

Impoundment: The surface area of the reservoir impounded by the Langdale Dam from the top of the spillway, approximately elevation 549.76 feet above mean sea level (msl), upstream toward West Point Dam along a fairly-level gradient line, is approximately 270 acres (FERC 1993).

6) PROJECT LOCATION:

The Project is located at river mile (RM) 191.9 on the Chattahoochee River, in 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). The most immediate dam downstream of Langdale Dam is the Riverview Dam, separately licensed and owned by Georgia Power (FERC P-2350).

7) THE INSTALLED PLANT CAPACITY:

The project is not currently operational. The 1993 FERC license authorized an installed capacity of 1,040 kilowatts.

8) THE NAMES AND MAILING ADDRESSES OF:

(i) *Any county in which the Project, or any federal facility that is used by the Project, is located, and:*

The Project is located in Harris County, Georgia and Chambers County, Alabama.

Mr. Randy Dowling
County Manager
P.O. Box 365
Hamilton, Georgia 31811

Ms. Regina Chambers
County Manager
2 South LaFayette Street
LaFayette, Alabama 36862

- (ii) *Any city, town or similar political subdivision in which the Project, or any federal facility that is used by the Project is located, or that has a population of 15,000 people or more and is located within 15 miles of the Project.*

There are no federal facilities used by the Project.

There are no cities, towns, or similar political subdivisions with a population of 15,000 or more people located within 15 miles of the Langdale Project.

- (iii) *Every irrigation district, drainage district, or special purpose subdivision in which the Project, or any federal facility that is used by the Project, is located, or that owns, operates or uses any facility that is used by the Project.*

There are no irrigation districts, drainage districts, or special purpose subdivisions that are likely to be interested in or affected by the Project.

- (iv) *Every other political subdivision in the general area of the Project that there is reason to believe would be likely to be interested in or affected by the notification.*

A complete list of stakeholders consulted to date is provided in Exhibit E to the surrender application and a consultation summary is provided in Appendix B of Exhibit E. Concurrent with the filing of this NOI, Georgia Power is providing notice to adjacent property owners via certified mail, of its intent to surrender the license and decommission the Project.

- (v) *Affected Indian Tribes*

While there are no federally recognized tribal lands within the Project Boundary, Georgia Power will consult with federally recognized tribes that may have an interest in the license surrender and dam decommissioning.

II. DESIGNATION AS NON-FEDERAL REPRESENTATIVE AND AUTHORIZATION TO INITIATE CONSULTATION

Georgia Power requests that FERC designate it as the non-federal representative for purposes of consultation under Section 7 of the Endangered Species Act and the joint agency regulations thereunder at 50 CFR Part 402, section 305 (b) of the Magnuson-Stevens Fishery Conservation and Management Act and the implementing regulations at 50 CFR 600.920. In addition, Georgia Power requests authorization to initiate consultation under section 106 of the National Historic Preservation Act and to implement regulations at 36 CFR Section 800.2(c)(4).

**Attachment 2
Langdale Project
Exhibit A
December 18, 2018**

Langdale Hydroelectric Project Application for License Surrender Exhibit A

Minor Water Power Project, 5 MW or Less

FERC No. 2341



December 2018

APPLICATION FOR LICENSE SURRENDER

EXHIBIT A

LANGDALE HYDROELECTRIC PROJECT

FERC PROJECT No. 2341

MINOR WATER POWER PROJECT, 5 MW OR LESS

Prepared by:



Kleinschmidt

Hoover, Alabama
www.KleinschmidtGroup.com

December 2018

**APPLICATION FOR LICENSE SURRENDER
EXHIBIT A
MINOR WATER POWER PROJECT, 5 MW OR LESS**

**LANGDALE HYDROELECTRIC PROJECT
FERC No. 2341**

TABLE OF CONTENTS

1.0	INTRODUCTION	1-1
1.1	PROJECT LOCATION	1-1
2.0	DESCRIPTION OF PROJECT AND MODE OF OPERATION	2-1
2.1	PLANT OPERATION.....	2-2
2.2	ESTIMATED AVERAGE ANNUAL GENERATION	2-3
2.3	ESTIMATED AVERAGE HEAD	2-3
2.4	RESERVOIR SURFACE AREA AND STORAGE CAPACITY	2-3
2.5	PLANT HYDRAULIC CAPACITY AND STREAM FLOW.....	2-4
2.6	PROJECT STRUCTURES	2-4
2.6.1	MISCELLANEOUS EQUIPMENT	2-7
2.7	ESTIMATED COST OF THE PROJECT	2-7
3.0	PURPOSE OF THE PROJECT	3-1
4.0	DAM DECOMMISSIONING PROPOSAL.....	4-1
4.1	DRAFT DECOMMISSIONING SCHEDULE	4-2
5.0	VALUE OF PROJECT POWER	5-1
6.0	ESTIMATED CHANGE IN PROJECT GENERATION	6-1
7.0	UNDEPRECIATED NET INVESTMENT OF THE PROJECT	7-1
8.0	ESTIMATED ANNUAL COST OF THE PROJECT	8-1
9.0	SINGLE LINE DIAGRAM	9-1
10.0	PROJECT SAFETY PROGRAM.....	10-1
11.0	REFERENCES	11-1

LIST OF TABLES

TABLE 2-1	LANGDALE EQUIPMENT AND OPERATION	2-2
TABLE 2-2	STANDARD NUMBERS FOR THE LANGDALE DAM.....	2-4
TABLE 2-3	LANGDALE PROJECT INTAKE SECTION.....	2-4
TABLE 2-4	LANGDALE PROJECT POWERHOUSE	2-5
TABLE 4-1	TASKS AND ESTIMATED SCHEDULE FOR LANGDALE DECOMMISSIONING	4-2

LIST OF FIGURES

FIGURE 1-1	LANGDALE PROJECT LOCATION.....	1-3
FIGURE 1-2	LANGDALE PROJECT VICINITY.....	1-4
FIGURE 1-3	MIDDLE CHATTAHOOCHEE RIVER BASIN EXISTING DAMS	1-5
FIGURE 2-1	LANGDALE DAM-SPILLWAY DISCHARGE CURVE.....	2-6

ACRONYMS

C

C.F.R. Code of Federal Regulations
cfs cubic feet per second

F

FERC Federal Energy Regulatory Commission
FPC Federal Power Commission

G

Georgia Power Georgia Power Company

H

hp horsepower

K

kV kilovolt
kVA kilovolt-ampere
kW kilowatt

M

MOU Memorandum of Understanding
msl mean sea level

P

Project Langdale Hydroelectric Project

R

RM River Mile

S

SHPO State Historic Preservation Office

U

USACE U.S. Army Corps of Engineers
USFWS U.S. Fish and Wildlife Service

**LANGDALE HYDROELECTRIC PROJECT
FERC No. 2341**

**APPLICATION FOR LICENSE SURRENDER
MINOR WATER POWER PROJECT, 5 MW OR LESS**

**EXHIBIT A
PROJECT DESCRIPTION**

1.0 INTRODUCTION

The Langdale Hydroelectric Project (“Langdale Project” or “Project”), Federal Energy Regulatory Commission (FERC) No. 2341, is an existing licensed development owned and operated by Georgia Power Company (Georgia Power). The Project was first licensed by the Federal Power Commission (FPC) on October 15, 1964. An Order Issuing Subsequent License (Minor Project) was issued by FERC¹ on May 24, 1993. The current license expires December 31, 2023. The Project was designed to operate as a run-of-river project; however, the Project is not currently operating and has not operated since 2009.

1.1 PROJECT LOCATION

The Project is located at river mile (RM) 191.9 on the Chattahoochee River, in the City of Valley, Alabama (*Figure 1-1* and *Figure 1-2*) (USACE 2016) 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 most immediate dam downstream of Langdale Dam is the Riverview Dam, separately licensed and owned by Georgia Power (FERC P-2350). Riverview Dam discharges directly into the Bartletts Ferry Project (P-485) which discharges directly into the Middle Chattahoochee Project (P-2177), comprised of Goat Rock Dam, Oliver Dam, and North Highlands Dam. Georgia Power operates the Bartletts Ferry and Middle Chattahoochee dams as modified run of river projects, with weekday peaking (*Figure 1-3*). Because the USACE West Point Dam is a significantly larger dam than all the lower six dams and regulates the flow all the way through the downstream dams to the City of Columbus, Georgia, it is the only project to provide flood control for the region.

The Langdale Project was purchased by Georgia Power from West Point Manufacturing Company in 1930. There are few details available regarding the construction of the dam and powerhouse; however, the dam and powerhouse were built for West Point Manufacturing Company by Hardaway Construction Company between 1904 and 1908. West Point Manufacturing Company utilized the Project to supply water and power to their mill adjacent to the dam. Turbines with horizontal generators were installed in the powerhouse as early as

¹ The Federal Power Commission became the Federal Energy Regulatory Commission in 1977.

1907; eventually, four horizontal units were installed. A fifth unit, with a direct-coupled vertical generator, was installed in 1924, and a similar sixth unit was installed in 1926. This produced some of the electricity needed to run the mills; the remaining electricity was purchased from the local utility. In 1930, West Point Manufacturing Company determined that it was more efficient to obtain all the electricity from the local utility and they sold the Langdale Project to Georgia Power.

The 1930 contract for the purchase of Langdale Dam by Georgia Power from West Point Manufacturing Company describes the Project as having six generating units, as described above, and a spillway with 3.33-foot flashboards. The flashboards are no longer on the spillway, but there is evidence of support pipes for the flashboards along the spillway crest. It appears that a concrete cap approximately 2-feet-thick was constructed on the spillway; it is unknown if the concrete cap was added before or after the purchase of the dam by Georgia Power.

Beginning in 1930, Georgia Power operated the six generating units at the Project. Over time, the four horizontal units became a maintenance problem, 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 horizontal unit openings in the powerhouse floor have been formed and filled with concrete.

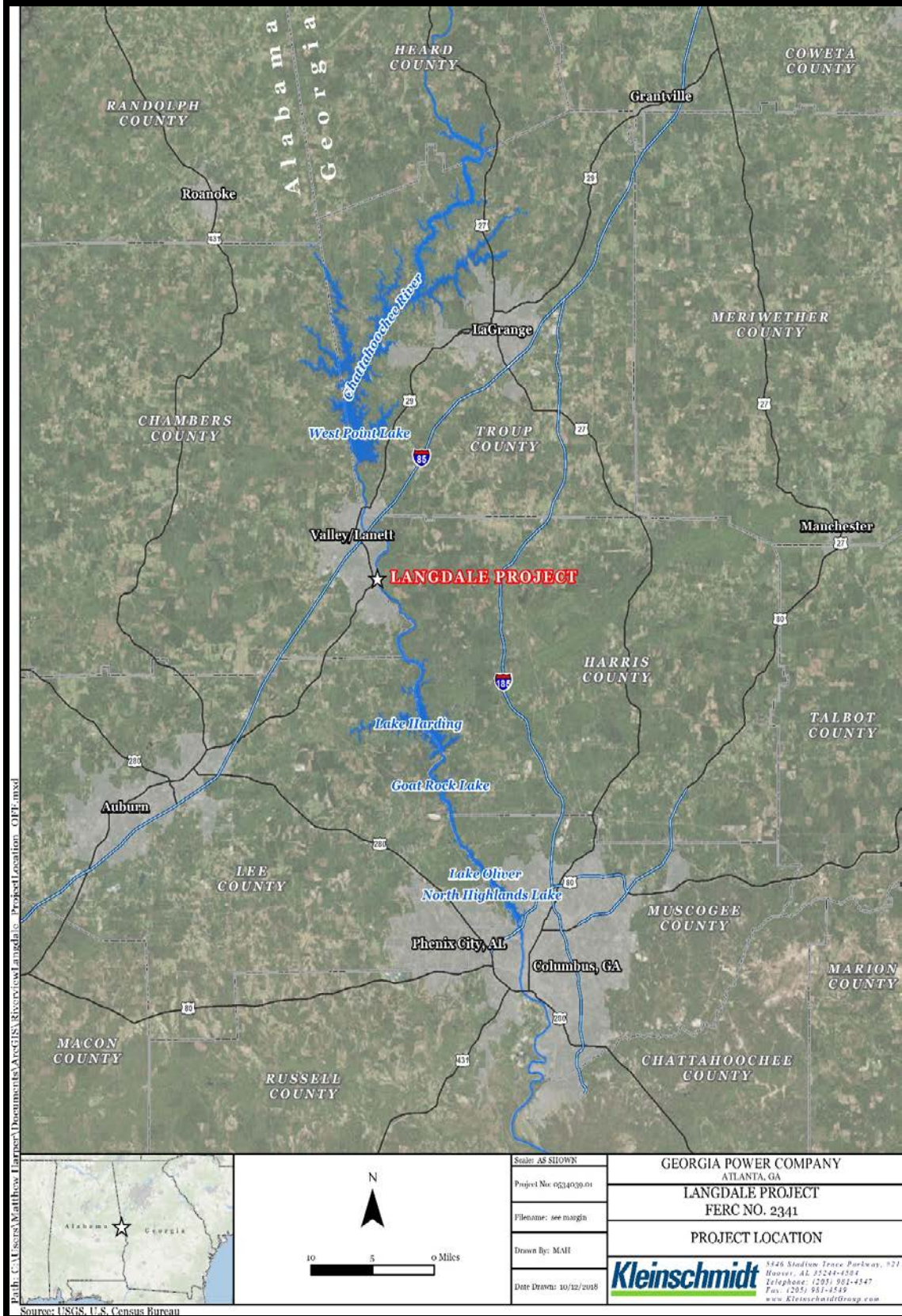


FIGURE I-1 LANGDALE PROJECT LOCATION

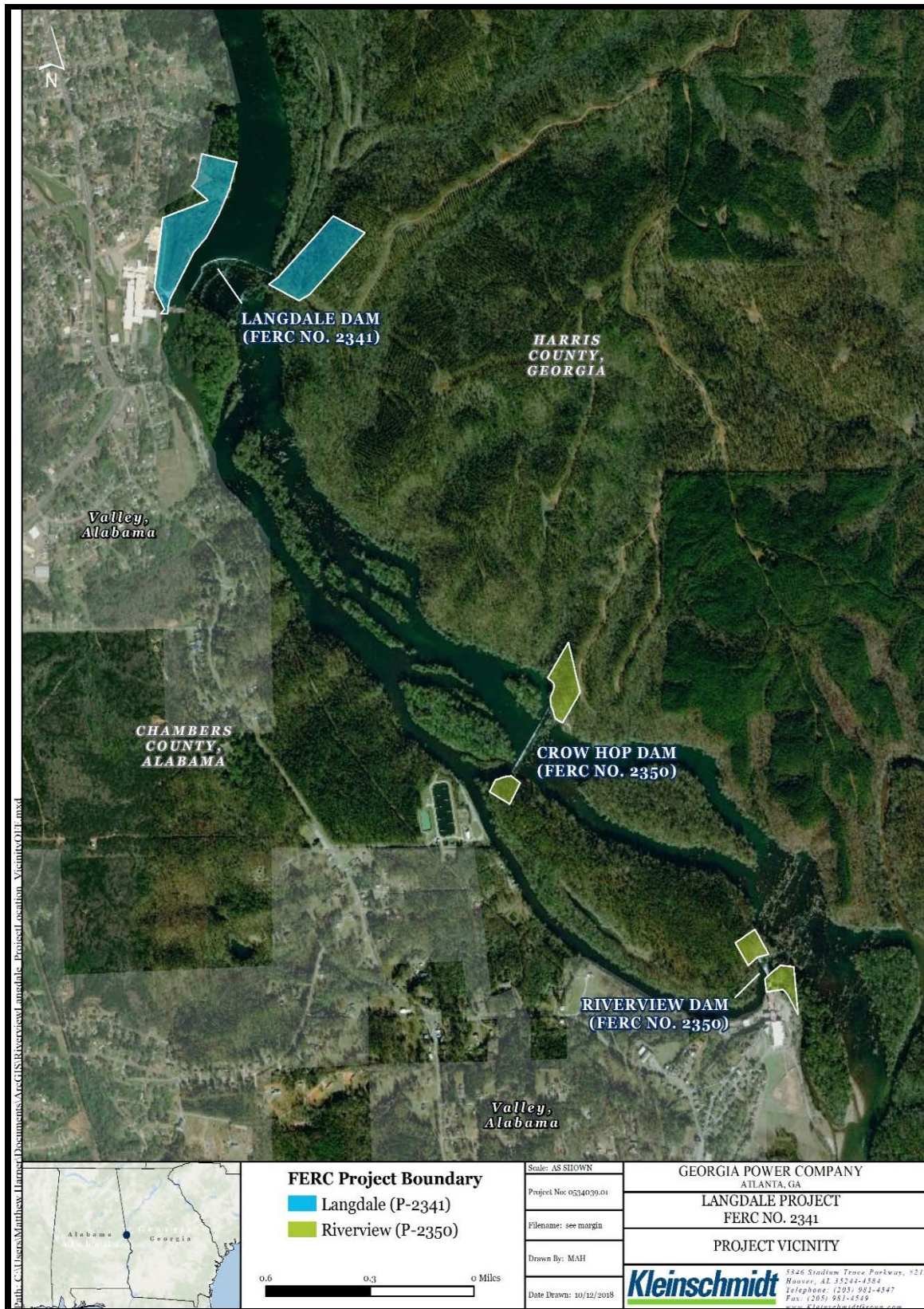


FIGURE 1-2 LANGDALE PROJECT VICINITY

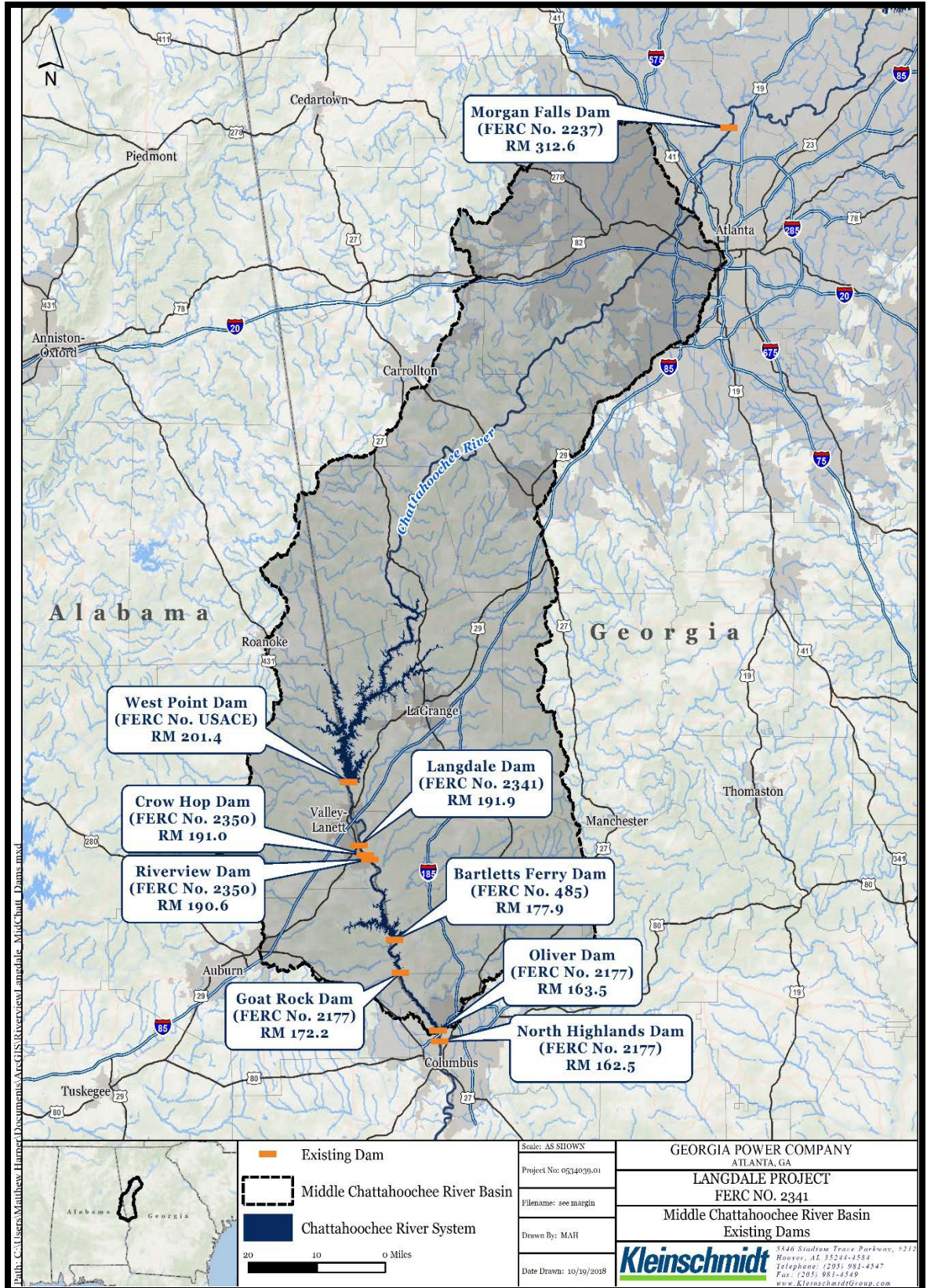


FIGURE 1-3 MIDDLE CHATTAHOOCHEE RIVER BASIN EXISTING DAMS

2.0 DESCRIPTION OF PROJECT AND MODE OF OPERATION

Pursuant to FERC's regulations at 18 Code of Federal Regulations (C.F.R.) § 4.61(c)(1), the following sections describe the Project and mode of operation in tabular format. For the reservoir surface area, two numbers are presented: 1) 270 acres is listed in the 1993 FERC Order Issuing a Subsequent License for the Langdale Project; and 2) 152 acres is listed in the USACE Final Environmental Impact Statement (FEIS) for the Update of Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin in Alabama, Florida, and Georgia (USACE 2016). The discrepancy in these two numbers for reservoir surface area may be due to improved mapping tools and understanding of the range of the Project reservoir.

TABLE 2-1 LANGDALE EQUIPMENT AND OPERATION

REQUIREMENT	PROJECT SPECIFICATION
18 C.F.R. § 4.61(c)(1)(i) Generating Unit	
Number of Generating Units	2 (Units 5 and 6)
Manufacturer	Westinghouse
Nameplate Rating	520 kw each at 16 feet of head
Voltage	600 Volts
Speed	180 RPM ¹
Exciter Rated Capacity	Unit 5 – 40 kw Unit 6 – 21 kw
Exciter Voltage	125 Volts
18 C.F.R. § 4.61(c)(1)(ii) Turbine	
Number	2 (Units 5 and 6)
Type of Hydraulic Turbine	Vertical Open Flume
Manufacturer	Leffel
Speed	180 RPM
Diameter of Water Wheel	51”
18 C.F.R. § 4.61(c)(1)(iii) Project Operation	
Plant Operations	Manual
Mode of Operation	Run-of-River
18 C.F.R. § 4.61(c)(1)(iv) Annual Generation	
Estimated Average Annual Generation	3,109,410 kilowatt-hours for the period 1989-2008
18 C.F.R. § 4.61(c)(1)(v) Average Head	
Approximate Gross Head	13.5 feet
18 C.F.R. § 4.61(c)(1)(vi) Reservoir Data	
Surface Area	270 acres/152 acres ²
Net Storage Capacity	418.5 acre-feet/235.6 acre-feet
Gross Storage Capacity	2,646 acre-feet/1,489.6 acre-feet
18 C.F.R. § 4.61(c)(1)(vii) Flow Data	
Maximum Powerhouse Capacity	874 cfs ³
Mean Annual Stream Flow	4,645 cfs

Source: FERC 1993

¹ revolutions per minute

² 270 acres is surface area in 1993 FERC license order; 152 acres is surface area in 2016 USACE FEIS for ACF Water Control Manual Update

³ cubic feet per second

2.1 PLANT OPERATION

The generating units at the Project are inoperable and have not generated electricity since 2009. The Langdale Project previously operated as a run of river plant that generated electricity only as water was made available from the upstream USACE West Point Dam. Therefore, this plant historically produced power only as water was available. If water was available for generation,

the Langdale Plant generated electricity if plant personnel were available to manually reload the generators. Because of vegetation in the area of the intake, it was necessary to clean the area before the units could be loaded in order to prevent damage to the units. It is for this reason that the units were not allowed to automatically load and unload. If electricity was not being produced, the water spilled over the plant spillway.

2.2 ESTIMATED AVERAGE ANNUAL GENERATION

The average annual generation of the Project from 1989-2008 was 3,109,410 kilowatt hours. The Langdale Project produced 1,118 megawatt hours in 2009, which was the last year it was operational.

2.3 ESTIMATED AVERAGE HEAD

The estimated average head across the units at the Project is approximately 13.5 feet. The estimated differential head throughout the length of the tailrace channel is approximately 1 foot.

2.4 RESERVOIR SURFACE AREA AND STORAGE CAPACITY

The surface area of the reservoir impounded by the Langdale Dam from the top of the spillway, approximately elevation 549.76 feet above mean sea level (msl), upstream toward West Point Dam along a fairly-level gradient line, is approximately 270 acres (FERC 1993). As noted in Section 2.0, the USACE reported a reservoir surface area for the Langdale Project of 152 acres (USACE 2016). Georgia Power will use existing information and relevant technology tools, including Light Detection and Ranging and Geographic Information System technology, to accurately define the Project reservoir surface area.

The total storage of the Langdale Project is the volume of water impounded by the dam if the water level was at the top of the spillway and no water was passing through the units. This is calculated by taking the approximate surface area of 270² acres and multiplying by the average depth of channel confined within this area (9.8 feet), which yields an estimate of 2,646 acre-feet. The amount of useable storage is the volume of water above the elevation at which the units shut off due to low water levels. During historic operations, the units would go off-line automatically when the reservoir level reached elevation 548.7 feet msl. The amount of useable storage is calculated as follows: 549.76 feet minus 548.7 feet equals 1.06 feet, multiplied by 270 acres equals 286.2 acre-feet.³

² 270 acres is the reservoir surface area in the FERC license.

³ 152 surface acres (USACE) multiplied by the average depth of channel confined within this area (9.8 feet), is estimated to be 1,489.6 acre-feet. The amount of useable storage based on the USACE number is calculated as follows: 549.76 feet minus 548.7 feet equals 1.06 feet, multiplied by 152 acres equals 161.12 acre-feet.

2.5 PLANT HYDRAULIC CAPACITY AND STREAM FLOW

Since 1960, the estimated hydraulic capacity, or flow through the plant, was calculated as 437 cfs, per unit, for a total of 874 cfs when both units were operating at most efficient gate setting. This calculation uses nameplate capacity of 520 kW per unit, units operated at 70 percent efficiency, and head of 13.5 feet.

The average stream flow at the Project from 2008 through December 2017 ranged from 3,001 cfs in August to 6,320 cfs in December; the mean annual stream flow is 4,650 cfs. This average is based on a calculation performed by Georgia Power that adjusted the flows at the West Point Gage to the drainage area at the Project. Releases from the USACE West Point Dam represent 98 percent of flows through the Project.

2.6 PROJECT STRUCTURES

The Project consists of a dam (*Table 2-2*), intake section (*Table 2-3*), powerhouse (*Table 2-4*), tailrace channel, and some miscellaneous equipment. A description of each is provided below.

TABLE 2-2 STANDARD NUMBERS FOR THE LANGDALE DAM

Type	Concrete gravity - rubble/masonry - with free crested spillway
Length of Concrete Section	Total is 1,892 feet long; 1,362 feet long overflow spillway
Height	15 feet
Volume of Concrete in Spillway	9,460 cubic yards
Elevation	549.76 feet (msl) 547.65 feet (Plant Datum) Correction Factor = 2.11 feet
Discharge Capacity Over Spillway	See Figure 2.1, Spillway Discharge Curve

Source: FERC 1993

TABLE 2-3 LANGDALE PROJECT INTAKE SECTION

Type	Reinforced concrete Water-chest type; integrated with powerhouse
Number of Water Chests	6 Total – 2 active, 4 retired
Dimensions of Water Chests	Approximately 25 feet-wide by 19 feet-high by 30 feet long, each
Hydraulic Capacity	437 cfs per unit for a total of 874 cfs for the plant

Source: FERC 1993

TABLE 2-4 LANGDALE PROJECT POWERHOUSE

Type	Brick and mortar with reinforced concrete floor and roof; wood-framed shop area attached
Dimensions	Approximately 245 feet long (including the old shop area) by 35 feet wide by 30 feet high
Tailrace Channel Dimensions	Approximately 250 feet wide by 1,500 feet long
Elevation Drop	Approximately 1 foot from powerhouse to end of tailrace channel
Nameplate Capacity	1,040 kW

Source: FERC 1993

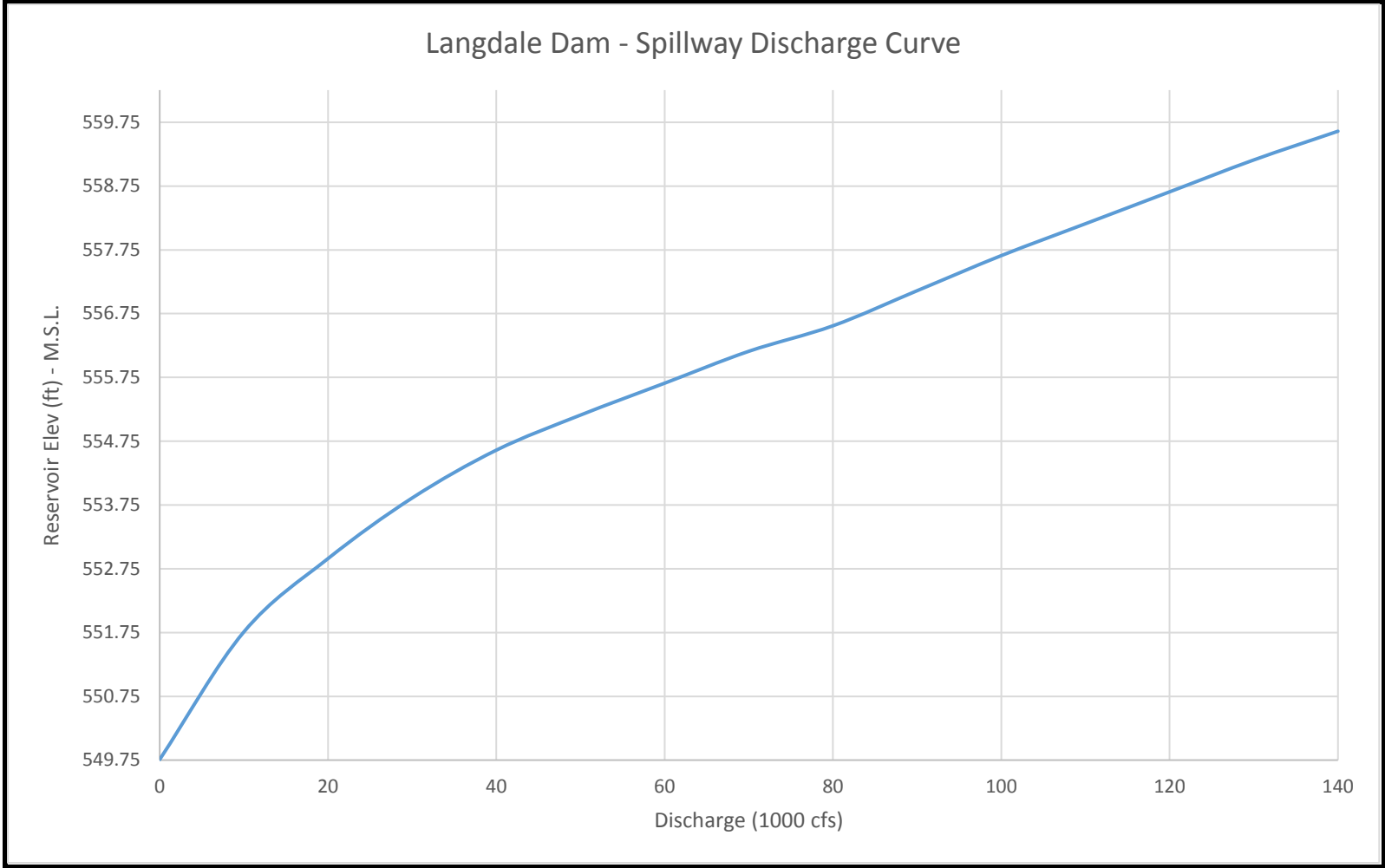


FIGURE 2-1 LANGDALE DAM-SPILLWAY DISCHARGE CURVE

2.6.1 MISCELLANEOUS EQUIPMENT

The following is a brief description of the pertinent miscellaneous equipment found at the Langdale Project.

1. **Transformer Step-up Bank:** The transformer step-up bank consists of three single-phase water-cooled, 1,000 kilovolt ampere (kVA) transformers located in the transformer room off the generator floor.
2. **12 Kilovolt (kV) Line Breaker:** The breaker is located on the catwalk on the south side of the powerhouse; the line breaker is rated at 45 kV and is used in a 12 kV application.
3. **Station Service Transformer:** The station service transformer is a three phase, 10 kVA, 550-volt to 110/220-volt transformer.
4. **Miscellaneous Electrical Equipment:** The miscellaneous electrical equipment consists of the buswork, control panels, cable, lighting, wiring, and communications. In 1980, some transformers and insulators were replaced in the buswork. The control panels were updated in the late 1950s.
5. **Air Compressor:** The existing air compressor is a water-cooled reciprocating belt driven unit, including a 25-horsepower motor and an air receiver tank. This machine has been in service since the early 1950s.
6. **Service Air Piping:** This system is constructed of galvanized metal pipe and transmits compressed air throughout the plant.
7. **Service Water Piping:** There are two pipelines. One furnished water from the adjacent West Point Mill to cool the transformers. The other line returned the water to the West Point Mill. Both pipelines are made of steel and run underwater from the mill to the plant.
8. **Powerhouse Overhead Crane:** The overhead crane at Langdale is a 15-ton capacity crane. It has a manually (hand) operated travel, east-west and north-south. The up-down lift is controlled by electric motor.
9. **Headgates:** The headgates are made of timber and serve to block flow into the units when closed. The headgates for the retired units 1-4 remained closed, while the headgates for units 5-6 were opened and closed as needed to control flow into the water chests. Units 5-6 have not been operational since 2009.
10. **Trashgates:** There are two timber trashgates located on the upstream side of Langdale Dam, one on the east and one on the west side of the powerhouse. The trashgates are used to pass the trash that builds up on the trash racks.
11. **Trash Racks:** The trash racks at the Langdale Project are fabricated from metal bar stock and serve to filter large debris from being passed through the units.
12. **Transmission Lines:** The transmission lines at the Langdale Project are not considered part of the Project and are not functional.

2.7 ESTIMATED COST OF THE PROJECT

The initial construction cost of the Langdale Project is unknown. However, an Indenture was entered on September 30, 1930, whereby Georgia Power paid West Point Manufacturing Company a lump sum of \$1,325,000 in return for all lands, water rights, easements, riparian

rights, buildings, plants, hydraulic structures, dams and appurtenances, and electrical machinery and appurtenances associated with the Langdale Hydroelectric Plant, the Langdale Steam Plant, and the Riverview Hydroelectric Plant.

For the Langdale Project, the net investment through December 31, 2016 is approximately \$1,290,000.

3.0 PURPOSE OF THE PROJECT

The mill operated and used the power it produced; however, over time, the mill required additional power from the electric grid. Georgia Power purchased the Langdale Project to produce power for the electric grid and to provide the mill with its increasing demand for electric energy. Georgia Power supplies electric power throughout the state of Georgia and interchanges power with other operating subsidiaries of the Southern Company and with other private and public power groups.

Due to the inoperability of the units, transmission issues, safety and liability concerns, the cost to repair and rehabilitate the Project, and the environmental and recreational benefits that would likely occur if the Project were removed, Georgia Power has determined that this Project is no longer in the public interest and seeks to surrender the FERC license and decommission the Project, as described in detail in Section 4.0.

4.0 DAM DECOMMISSIONING PROPOSAL

Georgia Power is pursuing FERC surrender and removal of the Langdale and Riverview Hydroelectric Projects located on the Chattahoochee River. Although the flow regime will continue to be dominated by the upstream USACE's West Point Dam, removal of these dams will benefit diverse native populations of fishes and invertebrates by opening approximately 11 miles of riverine shoal habitat. This action may enhance habitat for shoal bass, a Georgia species of interest, which has been documented in the river shoal sections located just below Riverview dam. An increase in river shoals may also provide additional habitat for other species of conservation concern such as the Shoals Spider Lily, Bluestripe Shiner, and several species of freshwater mussels endemic to the Project area. Removal of the dams will also provide scenic and unobstructed stretch of river for local communities and visitors, including enhanced river connectivity for natural paddling experiences from West Point Dam downstream to Lake Harding, as contemplated by the Chattahoochee Blueway Project and consistent with Georgia Power's ongoing environmental stewardship efforts.

Along with the environmental benefits of this dam removal and restoration, the Langdale Project has limited generation capacity and is not likely to be the best comprehensive use of the waterway, as required by Section 10(a)(1) of the Federal Power Act. These factors led Georgia Power to a determination that full removal of the Langdale dam was the most efficient and practical way to accomplish resource objectives. The powerhouse will remain intact and Georgia Power will transfer this facility to another entity, as described below.

Georgia Power consulted with federal, state, and local agencies in Georgia and Alabama, as well as non-governmental organizations and other interested stakeholders, regarding the license surrender and dam decommissioning. Georgia Power is collaborating with the U.S. Fish and Wildlife Service (USFWS) regarding the dam decommissioning; these entities are considering developing a Memorandum of Understanding (MOU) that would incorporate specific details of the dam removal, including decommissioning design, funding, and final restoration. Should USFWS and Georgia Power develop a MOU, the MOU will be filed with FERC as part of the final Decommissioning Plan. A draft decommissioning schedule is provided in Section 4.1. A draft outline of the Decommissioning Plan is provided in Appendix A of Exhibit E.

A complete list of stakeholders consulted to date is provided in Exhibit E and a consultation summary is provided in Appendix B of Exhibit E. Many of the stakeholders have indicated support for Georgia Power's initial proposal. Georgia Power will continue consulting with stakeholders on additional details of the dam decommissioning, including studies, engineering design drawings, the Dam Decommissioning Plan (Decommissioning Plan), and schedule.

During the license surrender and dam decommissioning process, Georgia Power will determine an accurate reservoir surface area based on readily available technology and provide the final reservoir acreage and supporting documentation to FERC.

The Langdale Project Decommissioning Plan will include the following activities:

1. Georgia Power plans to leave the powerhouse/workshop building in place and will determine the final disposition of this building, including, but not limited to, sale or transfer of the property to a non-governmental organization or government. The State Historic Preservation Officer may include stipulations or restrictions in accordance with the National Historic Preservation Act with any sale or transfer of property deed.
2. Prior to disposition of the powerhouse/workshop building, Georgia Power will:
 - a. disconnect the generator controls from the utility interconnection point,
 - b. open interconnection switches which tie the generation to the retail delivery point,
 - c. remove the generation breaker(s) from the panel near the interconnection point,
 - d. remove the control panel adjacent to the generators, and
 - e. remove wiring connecting the generation to the utility interconnection point. These activities would occur inside the powerhouse/workshop building. Once this equipment is removed, there can be no power delivered to the grid.
3. Georgia Power may offer the generators, control equipment, and wiring for sale following decommissioning if any of the equipment is salvageable.
4. Georgia Power will remove the Langdale Dam in consultation with the USFWS, City of Valley, the State Historic Preservation Officers (SHPO) for Georgia and Alabama, and other entities. Engineering design drawings will provide for placement of rubble from Langdale Dam in the river or along riverbanks in the immediate area as a stabilization measure.

Upon FERC’s issuance of an order approving the license surrender, Georgia Power will implement the Decommissioning Plan, as approved by FERC.

4.1 DRAFT DECOMMISSIONING SCHEDULE

Table 4-1 provides tasks and an estimated schedule for the Project decommissioning.

TABLE 4-1 TASKS AND ESTIMATED SCHEDULE FOR LANGDALE DECOMMISSIONING

Task	Estimated Date of Completion
File Surrender Application and Draft Outline for the Decommissioning Plan	December 2018
Conduct decommissioning studies	Winter 2019 – Fall 2019
File final Decommissioning Plan	December 2019
Implement FERC-approved Dam Decommissioning Plan	Anticipated Spring 2023
Obtain other federal, state and local permits related to decommissioning	Beginning Spring 2023

5.0 VALUE OF PROJECT POWER

The Project has not operated since 2009; therefore, there is no associated project power value. Georgia Power does not require the Project power to support its overall generation portfolio to meet existing and future customer demand.

6.0 ESTIMATED CHANGE IN PROJECT GENERATION

Georgia Power is proposing to surrender the license and decommission the Langdale Project; therefore, there is no change in Project generation compared to baseline, as the Project is not currently operational and is not generating electricity.

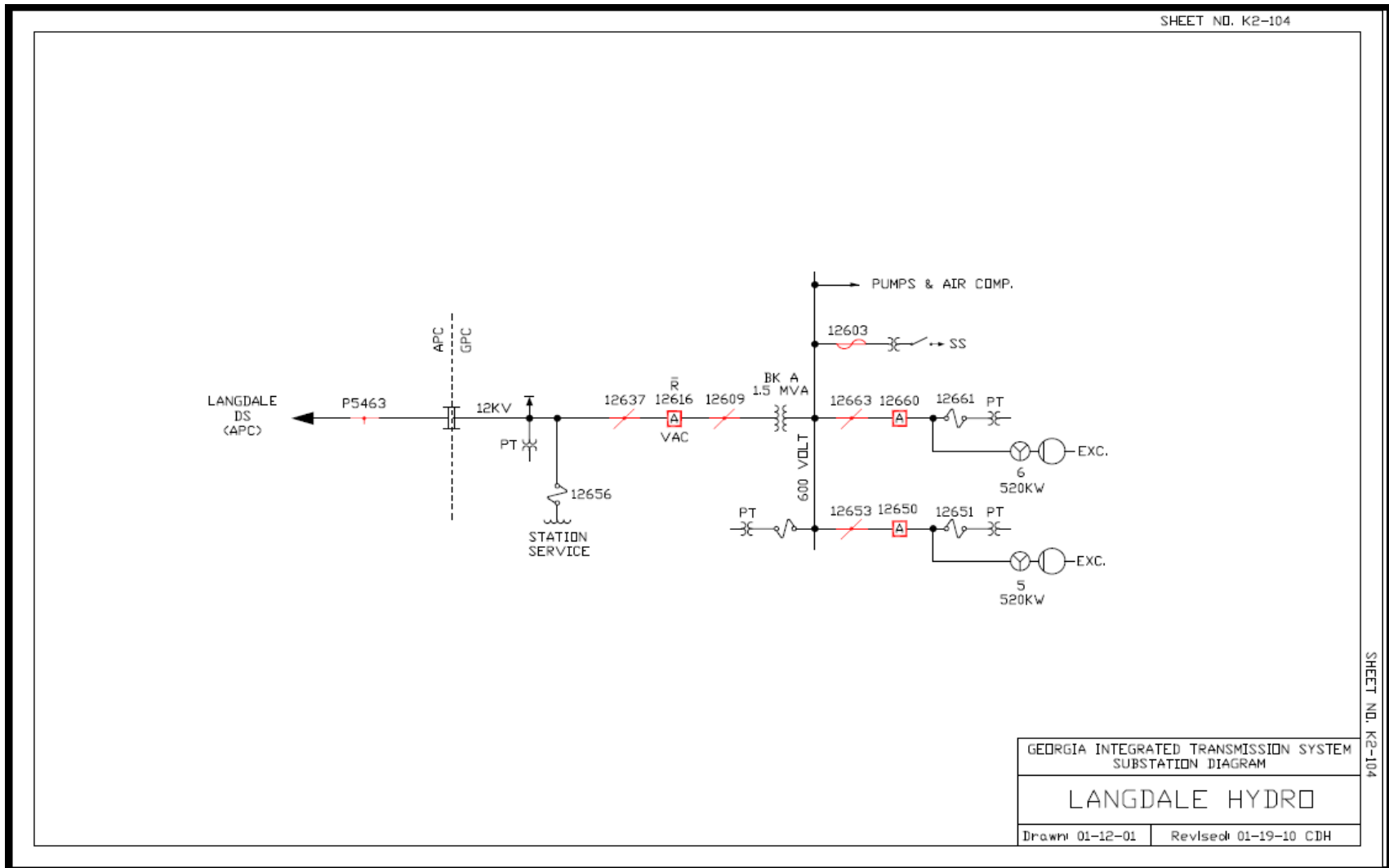
7.0 UNDEPRECIATED NET INVESTMENT OF THE PROJECT

The undepreciated net investment includes all of Georgia Power's original investment and all investment that has not been depreciated. The undepreciated net investment for the Langdale Project is \$896,095.71

8.0 ESTIMATED ANNUAL COST OF THE PROJECT

The estimated annual cost of the Langdale Project is \$15,000 and includes operation and maintenance (O&M) costs for grass cutting, security, and weekly dam safety inspections.

9.0 SINGLE LINE DIAGRAM



10.0 PROJECT SAFETY PROGRAM

Georgia Power plant personnel conduct weekly dam safety inspections using a checklist prepared by Southern Company Generation Hydro Services (Hydro Services). Hydro Services performs annual dam safety inspections and reviews weekly inspection reports from plant personnel. Hydro Services also makes periodic site visits approximately once a quarter or if any unusual conditions are observed during weekly inspections. FERC performs dam safety inspections every 3 years. The last FERC inspection was in May 2016. Hydro Services also prepares a Dam Safety and Surveillance Monitoring Report annually and submits this report to FERC. Due to FERC's security regulations these documents are considered Critical Energy Infrastructure Information (CEII) and are not publicly available.

11.0 REFERENCES

Federal Energy Regulatory Commission (FERC). 1993. Order Issuing Subsequent License (Minor Project). Federal Energy Regulatory Commission, Washington D.C.

U.S. Army Corps of Engineers (USACE). 2016. Final Environmental Impact Statement-Update of Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin in Alabama, Florida, and Georgia and a Water Supply Storage Assessment. USACE Mobile District, December 2016.

**Attachment 3
Langdale Project
Exhibit E
December 18, 2018**

Langdale Hydroelectric Project Application for License Surrender Exhibit E

Minor Water Power Project, 5MW or Less

FERC No. 2341



December 2018

APPLICATION FOR LICENSE SURRENDER

EXHIBIT E

LANGDALE HYDROELECTRIC PROJECT

FERC PROJECT No. 2341

MINOR WATER POWER PROJECT, 5 MW OR LESS

ENVIRONMENTAL REPORT

Prepared by:



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December 2018

**APPLICATION FOR LICENSE SURRENDER
MINOR WATER POWER PROJECT, 5 MW OR LESS**

**EXHIBIT E
ENVIRONMENTAL REPORT**

**LANGDALE HYDROELECTRIC PROJECT
FERC No. 2341**

TABLE OF CONTENTS

1.0	INTRODUCTION	1-1
1.1	PROJECT FACILITIES.....	1-1
1.2	PROJECT LOCATION	1-1
2.0	PROPOSED ACTION AND ALTERNATIVES	2-1
2.1	GEORGIA POWER’S PROPOSED ACTION	2-1
2.2	NO ACTION ALTERNATIVE.....	2-1
3.0	PRE-FILING CONSULTATION RECORD.....	3-1
3.1	STAKEHOLDER CONSULTATION	3-1
4.0	ENVIRONMENTAL ANALYSIS	4-1
4.1	GENERAL DESCRIPTION OF THE RIVER BASIN.....	4-1
4.1.1	REFERENCES	4-2
4.2	GEOLOGY AND SOILS	4-3
4.2.1	AFFECTED ENVIRONMENT	4-3
4.2.2	ENVIRONMENTAL EFFECTS	4-11
4.2.3	PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING	4-11
4.2.4	REFERENCES	4-11
4.3	WATER RESOURCES	4-13
4.3.1	AFFECTED ENVIRONMENT	4-13
4.3.2	ENVIRONMENTAL EFFECTS	4-18
4.3.3	PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING	4-20
4.3.4	REFERENCES	4-21
4.4	FISH AND AQUATIC RESOURCES	4-23
4.4.1	AFFECTED ENVIRONMENT	4-23
4.4.2	ENVIRONMENTAL EFFECTS	4-26
4.4.3	CUMULATIVE EFFECTS.....	4-27
4.4.4	PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING	4-27
4.4.5	REFERENCES	4-28

4.5	WILDLIFE AND TERRESTRIAL RESOURCES	4-29
4.5.1	AFFECTED ENVIRONMENT	4-29
4.5.2	ENVIRONMENTAL EFFECTS	4-32
4.5.3	CUMULATIVE EFFECTS.....	4-32
4.5.4	PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING	4-33
4.5.5	REFERENCES	4-33
4.6	RARE, THREATENED, AND ENDANGERED SPECIES	4-35
4.6.1	AFFECTED ENVIRONMENT	4-35
4.6.2	ENVIRONMENTAL EFFECTS	4-37
4.6.3	PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING	4-37
4.6.4	REFERENCES	4-37
4.7	RECREATION, AESTHETICS, AND LAND USE	4-39
4.7.1	AFFECTED ENVIRONMENT	4-39
4.7.2	AESTHETIC RESOURCES	4-42
4.7.3	LAND USE.....	4-44
4.7.4	ENVIRONMENTAL EFFECTS	4-44
4.7.5	CUMULATIVE EFFECTS.....	4-45
4.7.6	PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING	4-45
4.7.7	REFERENCES	4-45
4.8	SOCIOECONOMIC RESOURCES	4-48
4.8.1	AFFECTED ENVIRONMENT	4-48
4.8.2	ENVIRONMENTAL EFFECTS	4-50
4.8.3	PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING	4-50
4.8.4	REFERENCES	4-50
4.9	CULTURAL AND TRIBAL RESOURCES	4-52
4.9.1	AFFECTED ENVIRONMENT	4-52
4.9.2	ENVIRONMENTAL EFFECTS	4-54
4.9.3	PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING	4-54
4.9.4	REFERENCES	4-54

LIST OF TABLES

Table 3-1	Stakeholders Consulted Prior to Filing License Surrender Application	3-1
Table 4-1	Soils in Langdale Project Area	4-7
Table 4-2	Prorated Mean Monthly Discharge Based on 2008 – 2017 Data from USGS Station No. 02339500	4-13
Table 4-3	Georgia and Alabama Water Quality Criteria for Applicable Classifications in the Project Area Portion of the Chattahoochee River	4-17
Table 4-4	Summary of Monthly Average Water Quality Data for the Chattahoochee River Upstream of Langdale Dam	4-18
Table 4-5	Chattahoochee River Reservoirs	4-20
Table 4-6	Fish Species Collected in the Reach of the Chattahoochee River Upstream and Downstream of Langdale Dam	4-24
Table 4-7	Mussel Species Collected in the Vicinity of the Riverview and Bartletts Ferry Projects during 2009 and 2010	4-26
Table 4-8	Fish and Mussel Species with State or Federal Conservation Status in Chambers County, Alabama and Harris County, Georgia	4-36
Table 4-9	Non-Project Recreation Access Areas in the Riverview Project Vicinity ...	4-40
Table 4-10	Existing Land Use Harris County, Georgia (2014)	4-44
Table 4-11	Population Statistics for Alabama and Georgia Towns and Counties	4-49
Table 4-12	Employment Statistics for Alabama and Georgia Towns and Counties	4-50

LIST OF FIGURES

Figure 1-1	Project Location Map	1-3
Figure 1-2	USACE River Miles for Langdale Project	1-4
Figure 1-3	Middle Chattahoochee River Basin Existing Dams	1-5
Figure 4-1	EPA Ecoregions of Alabama and Georgia	4-4
Figure 4-2	Surficial Geology in the Project Vicinity	4-5
Figure 4-3	Surficial Geology and Fault Lines in the Project Vicinity	4-6
Figure 4-4	Soil Types in the Langdale Project Area	4-8
Figure 4-5	Langdale Representative Slopes	4-10
Figure 4-6	Langdale Project Drainage Area: Oseligee and Long Cane Creeks	4-15
Figure 4-7	Major NPDES Wastewater Treatment Plants in the Project Drainage Area	4-16
Figure 4-8	NWI Wetlands near the Project	4-31

LIST OF PHOTOS

Photo 4-1	Langdale Dam	4-43
Photo 4-2	Cemetery Boat Launch and Dock	4-43

LIST OF APPENDICES

- APPENDIX A DRAFT DECOMMISSIONING PLAN OUTLINE
APPENDIX B CONSULTATION SUMMARY

ACRONYMS

C

C.F.R. Code of Federal Regulations
cfs cubic feet per second

F

FERC Federal Energy Regulatory Commission
FPC Federal Power Commission

G

GAEPD Georgia Environmental Protection Division
GDNR Georgia Department of Natural Resources
Georgia Power Georgia Power Company

H

hp horsepower

K

kV kilovolt
kVA kilovolt-ampere
kW kilowatt

M

MOU Memorandum of Understanding
msl mean sea level

P

Project Langdale Hydroelectric Project

R

RM River Mile

S

SHPO State Historic Preservation Office

U

USACE U.S. Army Corps of Engineers
USFWS U.S. Fish and Wildlife Service

**APPLICATION FOR LICENSE SURRENDER
MINOR WATER POWER PROJECT, 5 MW OR LESS**

**EXHIBIT E
ENVIRONMENTAL REPORT**

**LANGDALE HYDROELECTRIC PROJECT
(FERC No. 2341)**

1.0 INTRODUCTION

The Langdale Hydroelectric Project (“Langdale Project” or “Project”) (FERC No. 2341) is an existing licensed hydroelectric project owned and operated by Georgia Power Company (Georgia Power). The Project was first licensed by the Federal Power Commission (FPC) on October 15, 1964. The Federal Energy Regulatory Commission (FERC)¹ issued an Order Issuing Subsequent License (Minor Project) on May 24, 1993. The current license expires December 31, 2023. The Project was designed to operate as a run-of-river project. The Project is not currently operating and has not operated since 2009.

Pursuant to 18 Code of Federal Regulations (C.F.R.) §6, Georgia Power files with FERC a License Surrender Application (Surrender Application) for the Project. As required by 18 C.F.R. § 6.1, this Surrender Application is being filed in the same form as an application for minor subsequent license and is accompanied by a draft outline of the Decommissioning Plan (Decommissioning Plan) (Appendix A). Georgia Power is also proposing to surrender and decommission the Riverview Project (FERC No. 2350), which is located approximately 1.0 river mile (RM) downstream of the Langdale Project. The Riverview Project Surrender Application and draft Decommissioning Plan is provided under FERC docket P-2350.

1.1 PROJECT FACILITIES

The Project consists of a dam, intake section, powerhouse, tailrace channel, and some miscellaneous equipment. A detailed description of each of these facilities is included in Exhibit A of the Surrender Application.

1.2 PROJECT LOCATION

The Project is located at river mile (RM) 197 on the Chattahoochee River, in the City of Valley, Alabama (*Figure 1-1* and *Figure 1-2*) in the counties of Chambers (Georgia) and Harris (Alabama) (USACE 2016). 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 most immediate dam downstream of Langdale Dam is the Riverview Dam, separately licensed and owned by Georgia Power (FERC P-2350). Riverview Dam discharges directly into the Bartletts Ferry Project (P-485) which discharges directly into the Middle

¹ The Federal Power Commission became the Federal Energy Regulatory Commission in 1977.

Chattahoochee Project (P-2177), comprised of Goat Rock Dam, Oliver Dam, and North Highlands Dam (*Figure 1-3*). Georgia Power operates the Bartletts Ferry and Middle Chattahoochee dams as modified run of river projects, with weekday peaking. Because the USACE West Point Dam is a significantly larger dam than all the lower 6 dams and regulates the flow all the way through the downstream dams to the City of Columbus, Georgia, it is the only project to provide flood control for the region.

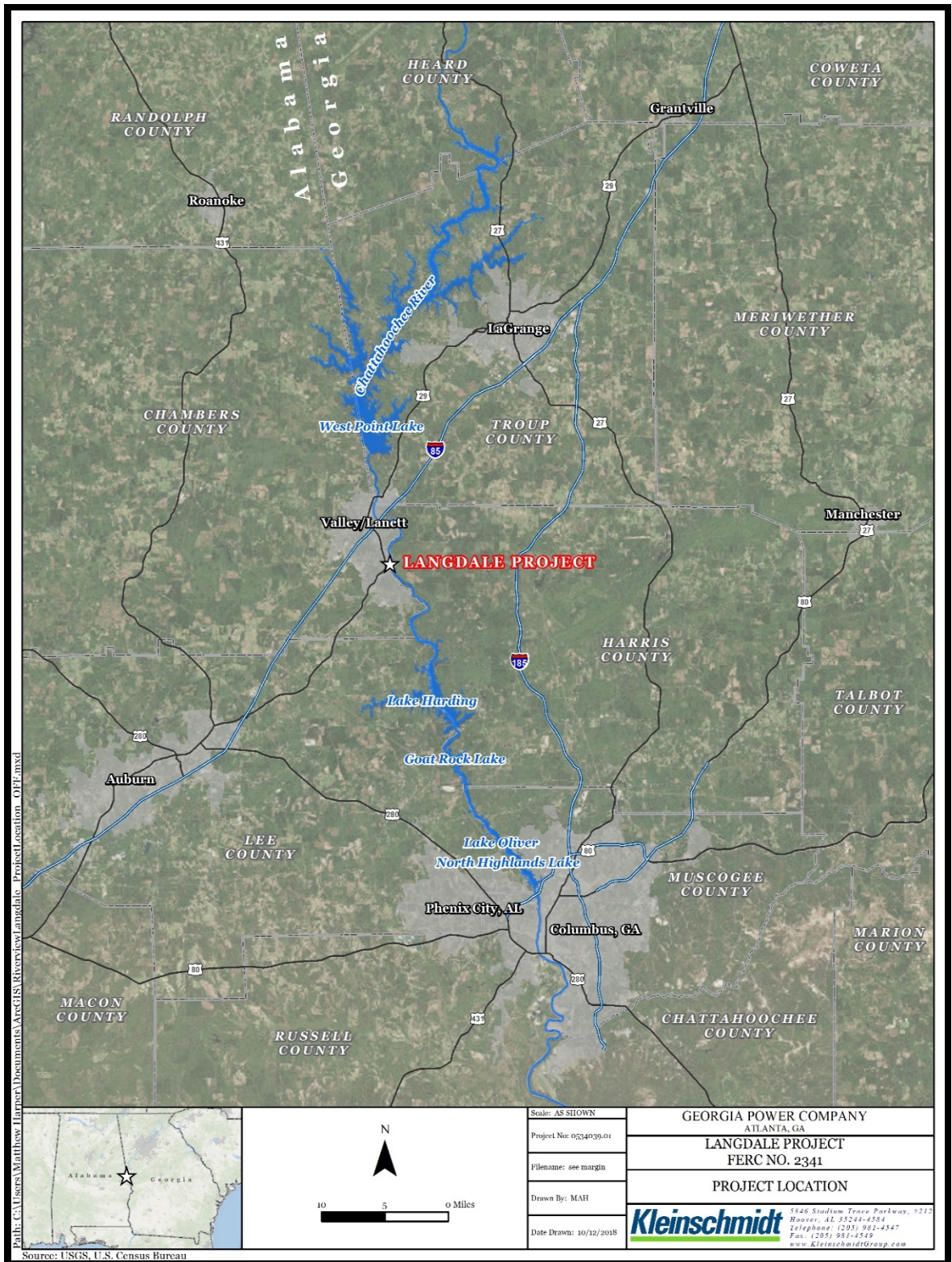


FIGURE 1-1 PROJECT LOCATION MAP

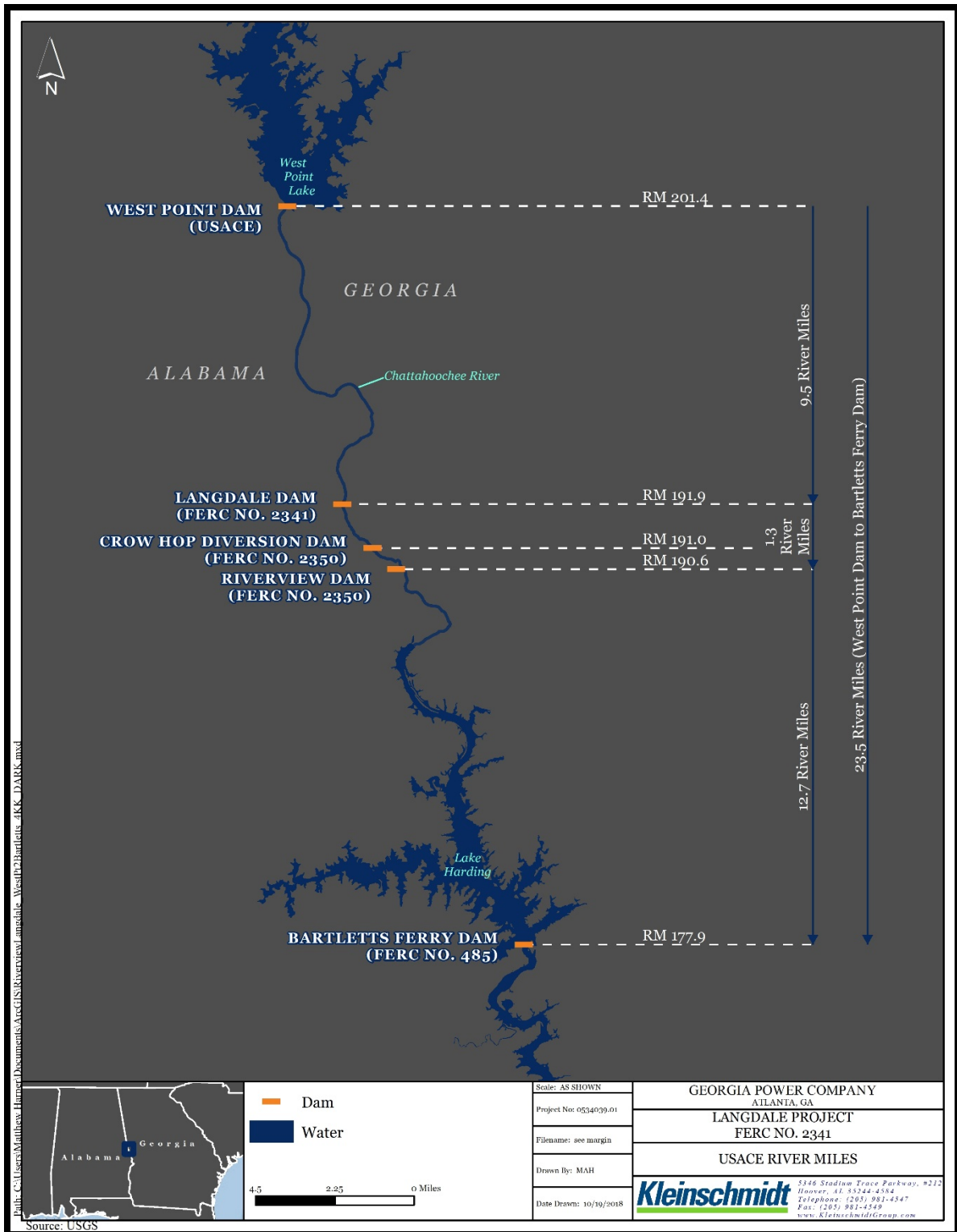


FIGURE 1-2 USACE RIVER MILES FOR LANGDALE PROJECT

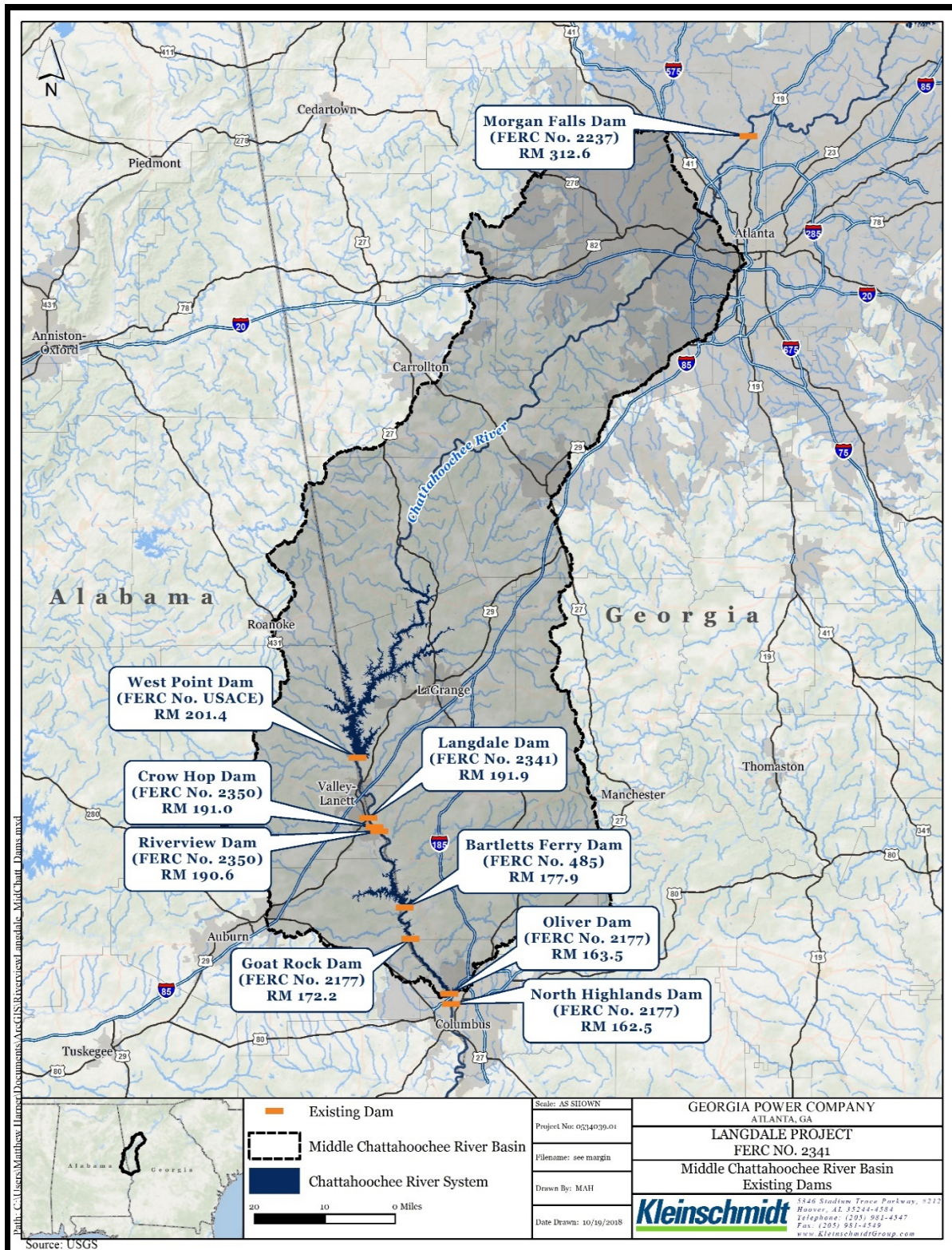


FIGURE 1-3 MIDDLE CHATTAHOOCHEE RIVER BASIN EXISTING DAMS

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 GEORGIA POWER'S PROPOSED ACTION

Georgia Power proposes to surrender the Langdale Project license and remove the Project dam and spillway. In determining the degree to which the dam should be removed, Georgia Power considered several factors: stakeholder interests, environmental effects, asset liability, and cost. Although the flow regime will continue to be dominated by the upstream USACE's West Point Dam, removal of these dams² will benefit diverse native populations of fishes and invertebrates by opening approximately 11 miles of riverine shoal habitat. This action may enhance habitat for Shoal Bass, a Georgia species of interest, which has been documented in the river shoal sections located just below Riverview Dam. An increase in river shoals may also provide additional habitat for other species of conservation concern such as the Shoals Spider Lily, Bluestripe Shiner, and several species of freshwater mussels endemic to the Project area. Removal of the dams will also provide a scenic and unobstructed stretch of river for local communities and visitors, including enhanced river connectivity for natural paddling experiences from West Point Dam downstream to Lake Harding, as contemplated by the Chattahoochee Blueway Project and consistent with Georgia Power's ongoing environmental stewardship efforts.

The environmental benefits of returning this section of the Chattahoochee River to a free-flowing system and the Project's limited generation capacity led to a determination that maximizing the breach section or full removal of the dam was the most efficient and practical way to accomplish aquatic resource and recreational use objectives. The Project powerhouse will remain intact. Georgia Power is coordinating with the United States Fish and Wildlife (USFWS), City of Valley, the Georgia and Alabama State Historic Preservation Officers (SHPO), and other entities on the removal of the dam as well as the transfer of ownership or sale of the powerhouse structure.

After completing the modeling and other decommissioning studies, Georgia Power may revise its decommissioning proposal which would be presented in the Final Dam Decommissioning Plan to be filed with FERC on or before December 31, 2019.

2.2 NO ACTION ALTERNATIVE

Under the no-action alternative, the Project would operate under the terms and conditions of the existing license and Georgia Power would be obligated to refurbish the Project and operate in accordance with its license; however, the Project is currently inoperable and would require significant rehabilitation to operate under the terms and conditions of the existing license. Because the existing license expires on December 31, 2023, Georgia Power would also need to obtain a new license for the Project in accordance with FERC requirements.

² Georgia Power is also proposing to surrender and remove the Riverview Project, located on the Chattahoochee River downstream of the Langdale Project.

3.0 PRE-FILING CONSULTATION RECORD

3.1 STAKEHOLDER CONSULTATION

Georgia Power initiated consultation on decommissioning the Project in 2017. A summary of consultation is included in Appendix B. *Table 3-1* provides a list of federal, state, and local agencies and non-governmental organizations that were contacted regarding Georgia Power's intent to surrender the Project prior to filing the Surrender Application.

**TABLE 3-1 STAKEHOLDERS CONSULTED PRIOR TO FILING
LICENSE SURRENDER APPLICATION**

Stakeholders	Date of Meeting
Alabama Department of Conservation and Natural Resources	May 3, 2018
Alabama Department of Environmental Management	November 15, 2018
Alabama Historical Commission	March 30, 2018
Chambers County, AL	November 29, 2018
Chattahoochee River Conservancy	March 21, 2018
City of Valley, Alabama	March 21, 2018
East Alabama Water, Sewer, and Fire Protection District	May 14, 2018
Georgia Department of Natural Resources – Environmental Protection Division	August 15, 2018
Georgia Department of Natural Resources - Historic Preservation Division	March 23, 2018
Georgia Department of Natural Resources - Wildlife Resources Division	January 24, 2018
Harris County, GA	December 4, 2018
Lake Harding Association	March 7, 2018
U.S. Army Corps of Engineers – Mobile District	May 17, 2018
U.S. Fish and Wildlife Service	January 9, 2018

4.0 ENVIRONMENTAL ANALYSIS

The effects of Georgia Power's proposal to surrender the Project license and decommission the Project are presented by describing the existing followed by an analysis of the environmental effects on each resource. Georgia Power identified water resources; aquatic resources; terrestrial resources; and recreation and aesthetic resources as being cumulatively affected; therefore, potential cumulative effects are presented in the individual resource sections.

4.1 GENERAL DESCRIPTION OF THE RIVER BASIN

The Langdale Project is located on the Chattahoochee River adjacent to the City of Valley, Alabama. A portion of the Project lands is located in Chambers County, Alabama, but most of the Project is in Harris County, Georgia, approximately 90 miles southwest of Atlanta, Georgia. The Project is approximately 9.5 RM downstream of the USACE West Point Dam and approximately 0.9 RM upstream of Georgia Power's Riverview Project. The western bank of the Chattahoochee River forms the border between Georgia and Alabama.

The Project straddles the Chattahoochee River in the Southern Piedmont Major Land Resource Area (SCS 1983). The area's general topography is characterized by rolling hills and ridges (Marbut 1913). The region is dissected by an intricate system of perennial streams and intermittent drainageways (Marbut 1913). Nearly level alluvial plains are found along the river channel and many of its tributaries (SCS 1983).

The Project Area³ has long, hot summers because moist tropical air from the Gulf of Mexico persistently covers the region. Winters are typically cool and short, with an occasional cold wave that moderates in 1 or 2 days. Average annual rainfall for the region is 47 inches, as measured in Columbus, Georgia, 20 miles to the south (U.S. Climate Data 2018). Annual temperatures average 65.6 degrees Fahrenheit (°F) with an average low temperature of 55.1°F and an average high temperature of 76.1°F (U.S. Climate Data 2018).

The population of Chambers County, Alabama was about 33,843 at the July 1, 2016 census, representing a 1.0 percent decrease from the April 1, 2010 census (U.S. Census Bureau 2016b). The population of Harris County, Georgia was about 33,652 at the July 1, 2016 census, representing a 5.1 percent increase from the April 1, 2010 census (U.S. Census Bureau 2016d).

In the sections below, we describe the existing environment followed by a discussion of the effects of license surrender and dam decommissioning on each resource. Water resources were considered a cumulatively affected resource; therefore, the water resources section contains a brief discussion of those effects. Each resource area also includes a list, where applicable, of Georgia Power's proposed studies for the license surrender and dam decommissioning.

³ Common terms used in the resource sections include Project Area and Project Vicinity. The term "Project Area" refers to the land and water in the FERC Project boundary and immediate geographic area adjacent to the Project boundary. The term "Project Vicinity" refers to a larger geographic area near a hydroelectric project, such as a county.

4.1.1 REFERENCES

Marbut, Curtis Fletcher. 1913. Soils of the United States. 1913 Edition.

Soil Conservation Service (SCS). 1983. U.S. Department of Agriculture. Soil Survey for Muscogee County, Georgia. Athens, Georgia: College of Agriculture.

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U.S. Climate Data. 2018. Monthly Climate Columbus-Fort Benning, Georgia. URL: <https://www.usclimatedata.com/climate/columbus-fort-benning/georgia/united-states/usga0133>. Accessed July 2018.

4.2 GEOLOGY AND SOILS

4.2.1 AFFECTED ENVIRONMENT

4.2.1.1 GEOLOGY

The Chattahoochee River Basin spans three level III ecoregions in the states of Georgia and Alabama: Blue Ridge, Piedmont, and Southeastern Plains (EPA 2011) (*Figure 4-1*). The headwaters of the Chattahoochee River originate in the Blue Ridge ecosystem, where it briefly flows through an area defined by a geologic history of mountain building before a sharp change in altitude carries it into the lower relief Piedmont ecosystem, a rolling hill environment (GDNR 1997).

Approximately 34 RM south of the Langdale Project is the Fall Line, which marks the transition between the Coastal Plains and Piedmont ecoregions, underlain by Precambrian and Paleozoic crystalline rocks (predominantly gneiss and schists with lesser amounts of metamorphosed volcanic rocks, metamorphosed sedimentary rocks, and granites) and the unconsolidated Pliocene, Cretaceous, and Tertiary sands of the Southeastern Plains (*Figure 4-2*) (GDNR 1997).

Once entering the Piedmont, the Chattahoochee River runs northeast to southwest, parallel to and guided by a narrow zone of intensely sheared rocks known as the Brevard Fault Zone, until eventually cutting across a less resistant portion of that fault zone and veering south along the Alabama/Georgia border to the location of the Langdale Project (GDNR 1997). The Piedmont ecoregion can be further divided into two level IV ecoregions: Southern Inner Piedmont (north of the Brevard Fault Zone) and Southern Outer Piedmont (south of the Brevard Fault Zone). The Langdale Project lies within the Southern Outer Piedmont, which is dominated by gneiss, schist and granite (EPA 2011). The Project is specifically located along a portion of the Chattahoochee River that transitions between predominantly mica schist to the east and felsic gneiss to the west of the river (*Figure 4-3*).

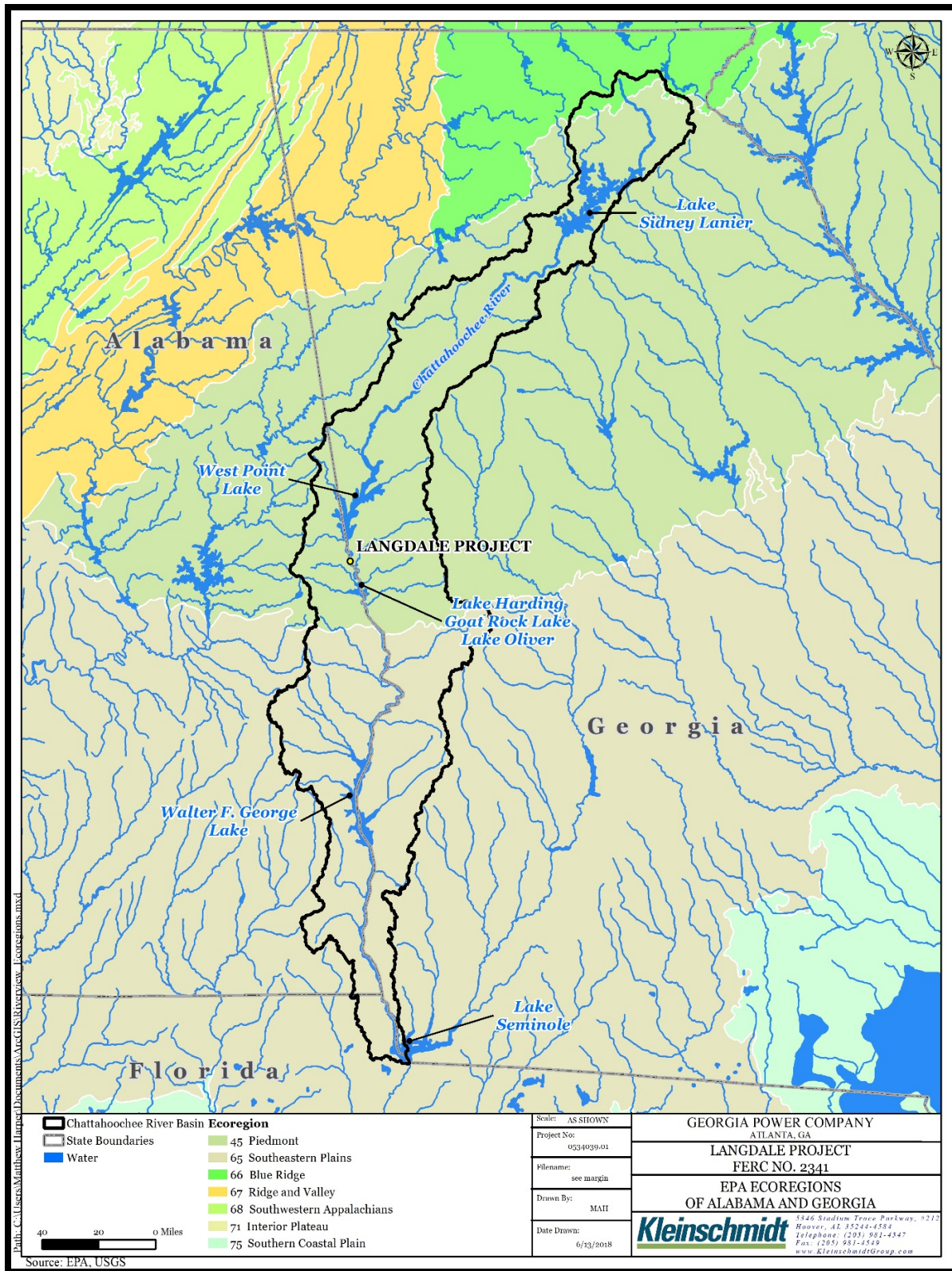


FIGURE 4-1 EPA ECOREGIONS OF ALABAMA AND GEORGIA

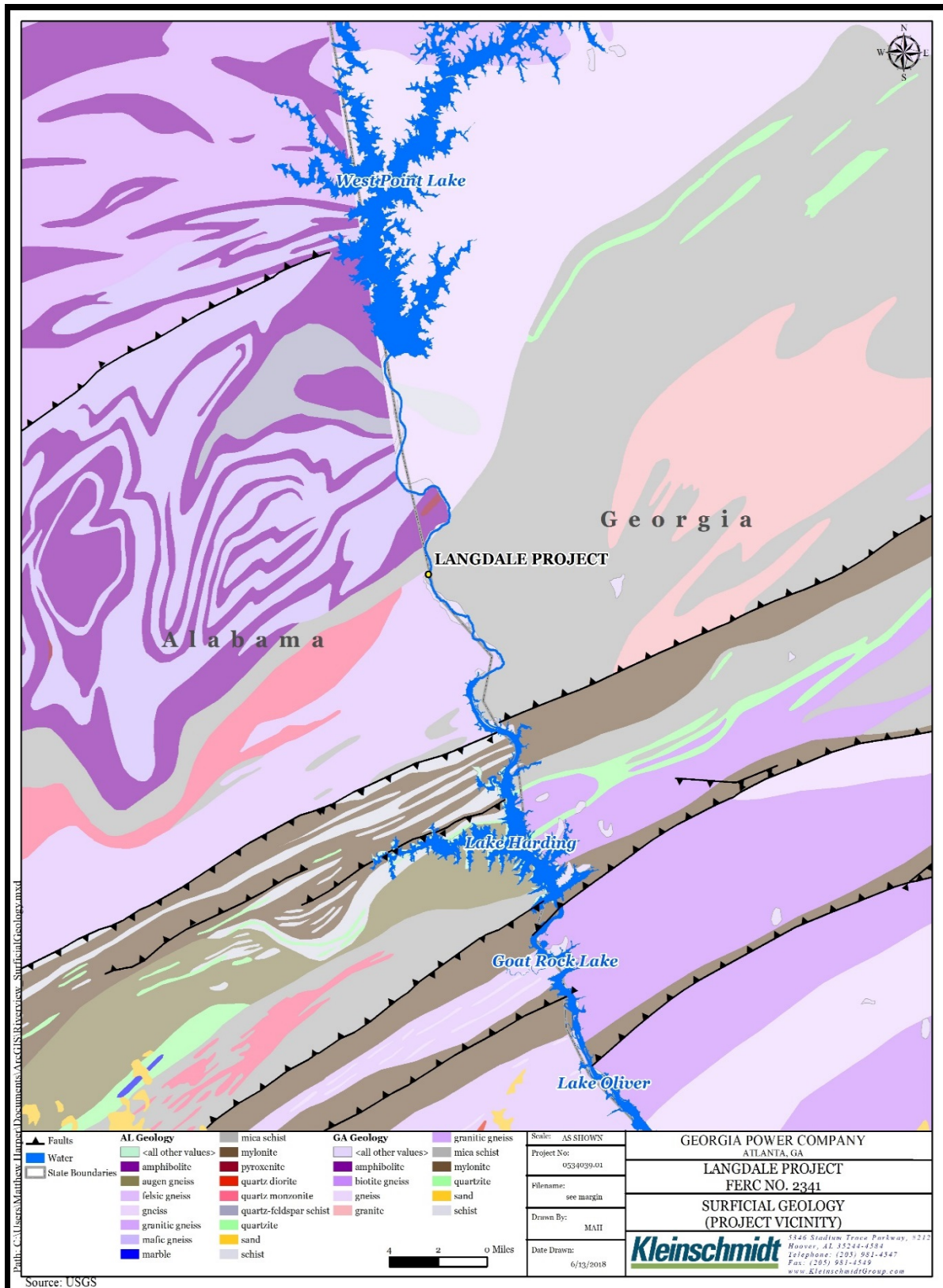


FIGURE 4-2 SURFICIAL GEOLOGY IN THE PROJECT VICINITY

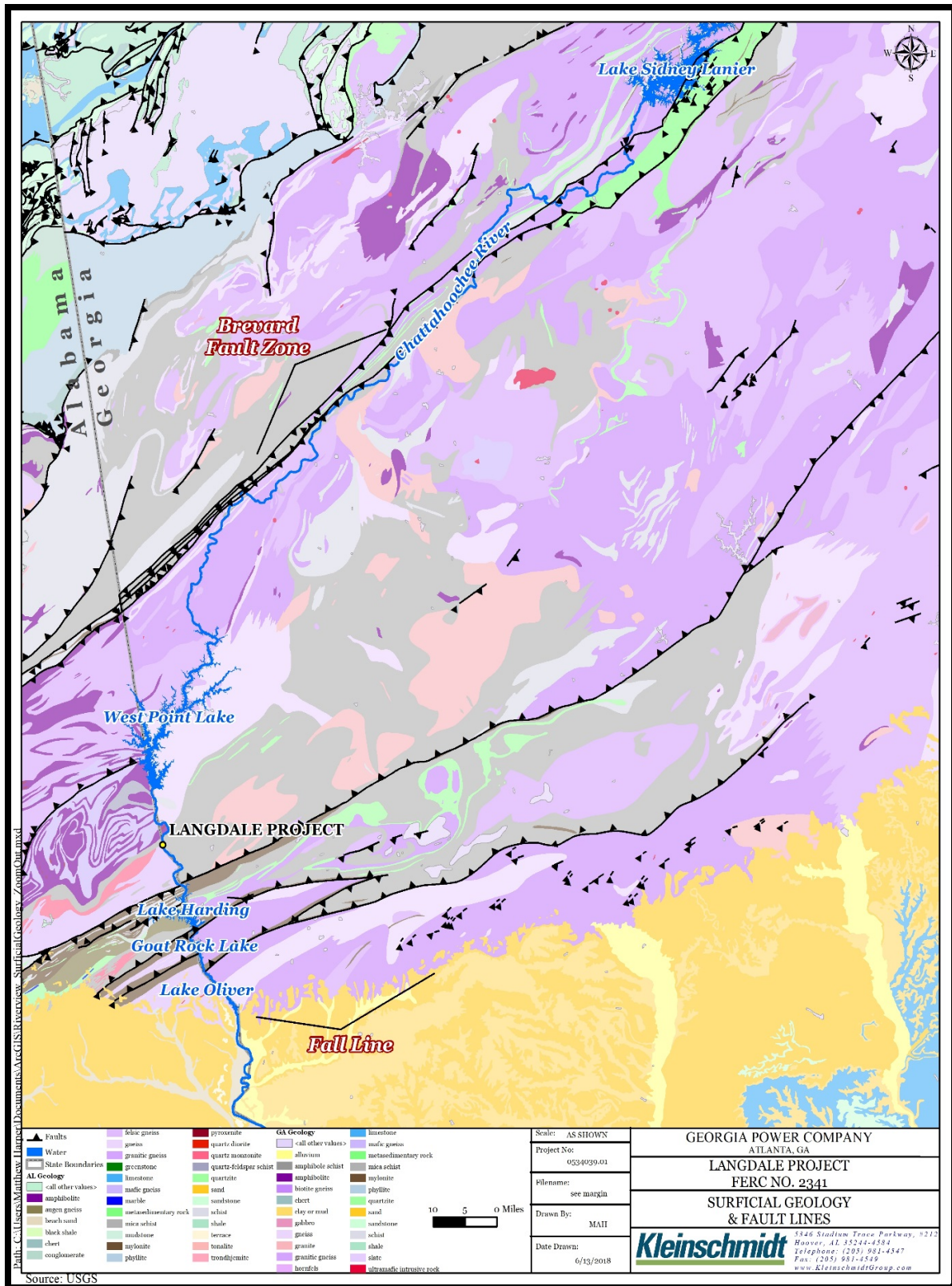


FIGURE 4-3 SURFICIAL GEOLOGY AND FAULT LINES IN THE PROJECT VICINITY

4.2.1.1.1 SOILS

Table 4-1 and *Figure 4-4* depict soils types in the Project Area. The soils generally consist of sandy loams and clay loams.

TABLE 4-1 SOILS IN LANGDALE PROJECT AREA

Symbol	Name	Acreage	Percentage
W	Water	211.54	27.1%
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	133.50	17.1%
PaE2	Pacolet sandy loam, 15 to 25 percent slopes, moderately eroded	84.40	10.8%
Ch	Congaree loam	59.96	7.7%
McD2	Madison gravelly fine sandy loam, eroded, strongly sloping	46.97	6.0%
AaB	Altavista fine sandy loam, gently sloping	34.81	4.5%
WaC2	Wickham fine sandy loam, eroded, sloping	34.74	4.4%
Ba	Buncombe loamy sand	24.07	3.1%
MbD3	Madison gravelly clay loam, severely eroded, strongly sloping	22.38	2.9%
PaD2	Pacolet sandy loam, 10 to 15 percent slopes, moderately eroded	20.26	2.6%
Sa	Sandy alluvial land, poorly to somewhat poorly drained	19.82	2.5%
MbC3	Madison gravelly clay loam, severely eroded, sloping	16.65	2.1%
BuA	Buncombe loamy sand, 0 to 2 percent slopes, occasionally flooded	15.66	2.0%
LkF	Louisa stony sandy loam, steep	15.38	2.0%
Rb	Rough broken land	14.19	1.8%
Wb	Worsham sandy loam	9.77	1.3%
PaC2	Pacolet sandy loam, 6 to 10 percent slopes, moderately eroded	3.65	0.5%
ScC	Shallow land, sloping	3.08	0.4%
WaD2	Wickham fine sandy loam, eroded, strongly sloping	2.94	0.4%
CaC3	Cecil gravelly clay loam, severely eroded, sloping	2.17	0.3%
Ce	Chewacla sandy loam	1.59	0.2%
ScD	Shallow land, strongly sloping	1.53	0.2%
HbC2	Hiwassee fine sandy loam, eroded, sloping	1.43	0.2%
AdC	Appling sandy loam, sloping	0.24	0.0%
LaB3	Lloyd clay loam, severely eroded, gently sloping	0.05	0.0%
AdB	Appling sandy loam, gently sloping	0.00	0.0%

Source: NRCS 2018

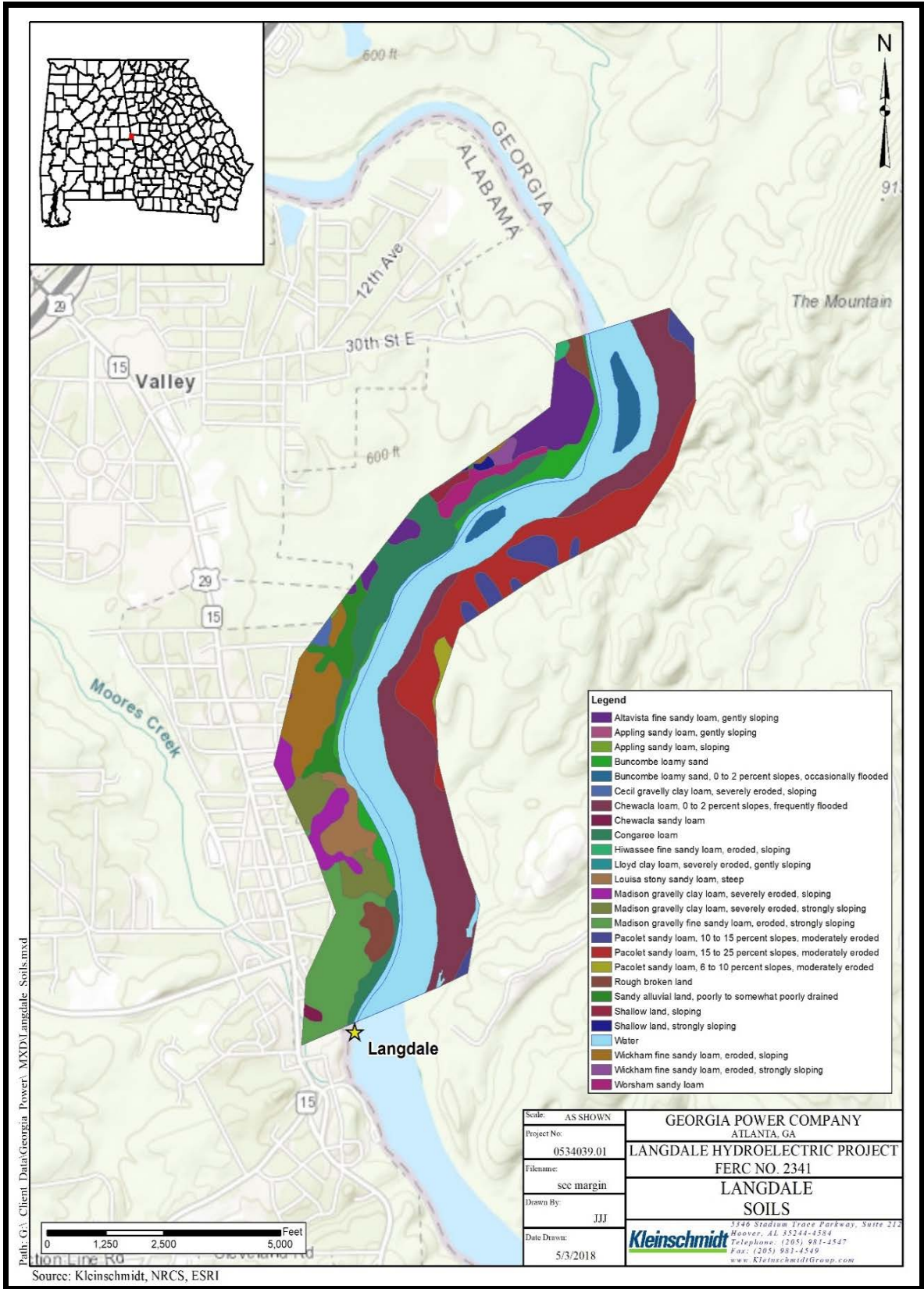


FIGURE 4-4 SOIL TYPES IN THE LANGDALE PROJECT AREA

Slopes found within the Project Vicinity range from 0 to 45 percent (*Figure 4-5*). Slopes found along the shoreline lie predominantly between 0 and five percent. Shorelines are generally undisturbed forested areas and subject to little anthropogenic disturbance, aside from portions along the Alabama side of the river where developed lands approach shoreline areas.

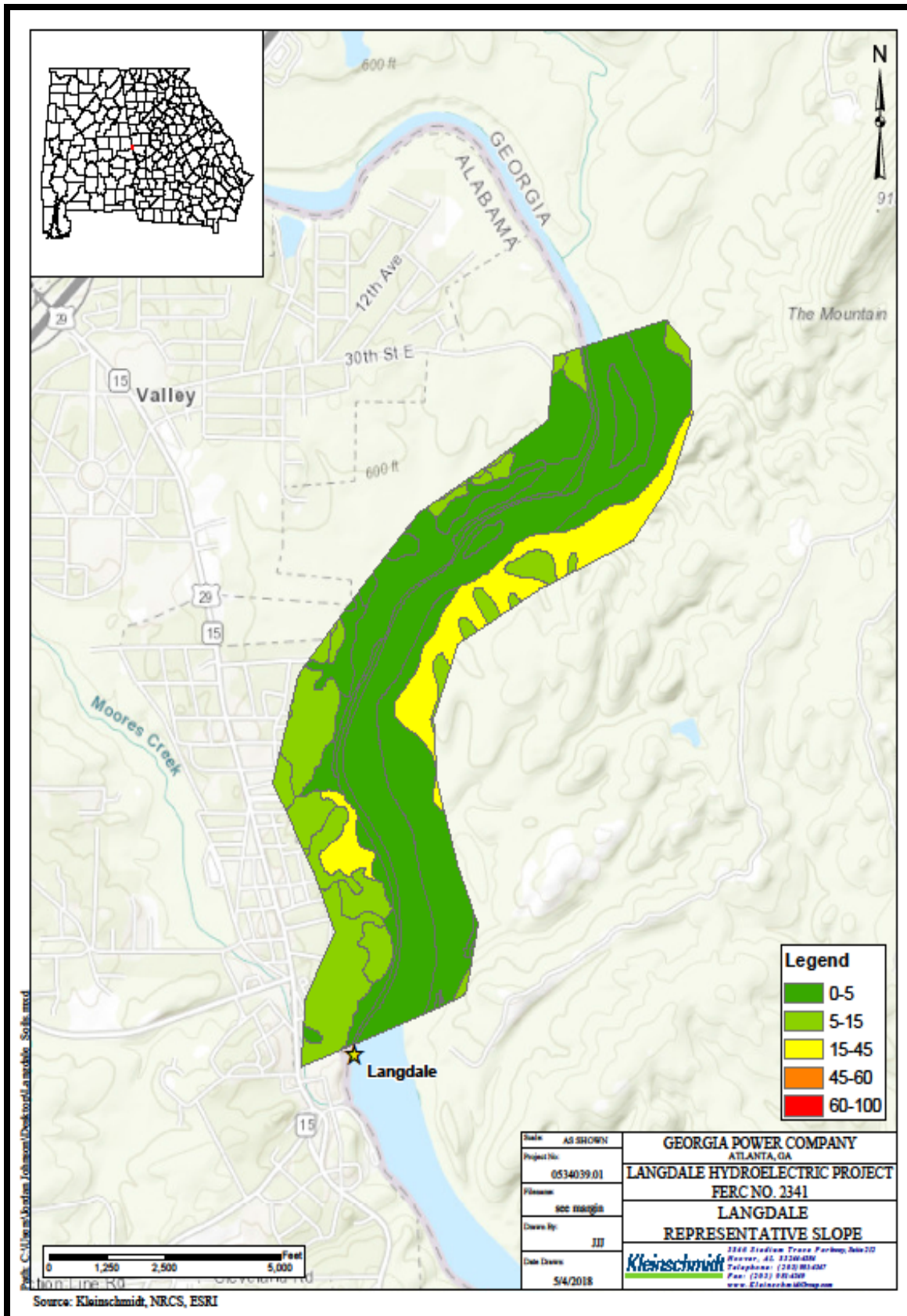


FIGURE 4-5 LANGDALE REPRESENTATIVE SLOPES

4.2.2 ENVIRONMENTAL EFFECTS

Because the Project is run-of-river, the Project did not, and does not, alter stream flows as they enter the Project Area. In addition, the Project likely does not exacerbate any erosion occurring within the river system as there is no storage or daily fluctuation of water that is controlled by Georgia Power (daily water level fluctuations do occur in the area associated with the daily peaking of West Point Dam). The existence of the Project does contribute to limited sedimentation of coarser material. Dam removal would allow downstream passage of any trapped sediment and restore normal sediment transport systems through the affected stretch of the Chattahoochee River system. In 2012-2013, the USACE removed two run-of-river dams downstream of the Langdale Project on the Chattahoochee River (the City Mills and the Eagle and Phenix Dams, respectively). During the removal, the USACE found that very little sediment accumulated behind the dams. Because the Chattahoochee is a highly regulated river system, any coarser sediment reintroduced downstream following dam removal will be eventually move through the lower dams.

4.2.3 PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING

Based on information gathered by the USACE during removal of the City Mills Dam and the Eagle and Phenix Dam on the Chattahoochee River, significant amounts of sediments do not accumulate at small run-of-river projects (GEL Engineering 2009). Therefore, Georgia Power is not proposing to conduct sediment studies as part of the Project decommissioning. Bathymetry data collected as part of the hydraulic modeling will help Georgia Power estimate the amount of sedimentation that may be behind the dam.

4.2.4 REFERENCES

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4.3 WATER RESOURCES

4.3.1 AFFECTED ENVIRONMENT

4.3.1.1 WATER QUANTITY AND WATER USE

The Langdale Project lies within the Middle Chattahoochee River Basin (HUC 03130002) and has a drainage area of 3,640 square miles (USGS 2018) (*Figure 4-6*). The surface area of the water impounded by the Langdale Dam is approximately 152 acres (USACE 2016). As noted in Exhibit A, there are two sources of information for the surface area of the Langdale reservoir: 1) 270 acres is used in the 1993 FERC Order Issuing a Subsequent License and Environmental Assessment for the Langdale Project; and 2) 152 acres is listed in the USACE’s Final Environmental Impact Statement (FEIS) for the Update of Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin in Alabama, Florida, and Georgia (December 2016). These two numbers for reservoir surface area differ, which may be due to mapping errors. For purposes of this section, Georgia Power will use the 152 acres identified in the 2016 USACE FEIS. During the license surrender and dam decommissioning process, Georgia Power will determine an accurate reservoir surface area based on readily available technology and provide to FERC the final reservoir acreage and supporting documentation.

Historically, the Project operated in a run-of-river mode and passed inflows, including releases from West Point Dam, located upstream. Major tributaries to the Langdale Project reservoir include Oseligee Creek (AL) and Long Cane Creek (GA) (*Figure 4-6*), however these contribute very little to inflows into Langdale Dam. Approximately 98 percent of the inflows to Langdale are comprised of West Point Dam discharges. West Point Dam is a peaking hydroelectric facility with a minimum continuous flow requirement of 675 cubic feet per second (cfs). West Point Dam drains an area of 3,440 square miles. Based on a proration of discharges measured at West Point Dam (USGS Station No. 02339500), flows at Langdale Dam from 2008 to 2017 ranged from a monthly average of 3,001 cfs in August to 6,320 cfs in December (*Table 4-2*).

TABLE 4-2 PRORATED MEAN MONTHLY DISCHARGE BASED ON 2008 – 2017 DATA FROM USGS STATION NO. 02339500

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Discharge	6,213	5,954	6,204	5,692	4,680	3,354	3,234	3,001	3,516	3,341	4,314	6,320

Source: USGS 2018

Langdale lies within the state of Georgia’s Middle Chattahoochee Water Planning Region (MCWPR). According to the MCWPR’s 2017 Regional Water Plan, water withdrawals in the basin are primarily used for public supply (12.39 million gallons per day [mgd]), irrigation (0.54 mgd), and livestock (0.18 mgd). Two municipal water supply withdrawals are in the same vicinity – City of West Point (GA) and Chattahoochee Valley Water Supply District (AL) – with a combined maximum daily and maximum monthly average permit limits of 10.1 mgd

and 8.6 mgd, respectively (USACE 2016). Chattahoochee Valley Water Supply District is a co-op organization that supplies municipal water to City of Huguley (AL), City of Lanett (AL), and City of Valley (AL). These withdrawals are above the Project Boundary and above the Interstate I-85 bridge. Georgia Power believes these intakes are not affected by the Project because of the shoals that exist beneath the water surface just south of the I-85 bridge. The hydraulic modeling will confirm whether this is accurate.

Three wastewater plants discharge treated effluent into the Chattahoochee River upstream of the Riverview Project, including the City of Lanett (AL) Discharge, City of West Point (GA) Discharge, and East Alabama Water, Sewer, and Fire Protection Division (EAWSFPD). The EAWSFPD provides water, sewer, and fire protection for portion of Chambers County, Alabama, including the City of Valley, Alabama. (*Figure 4-7*). Only the EAWSFPD discharge is within the Project Boundary. The other discharges are above the Project Boundary and above the Interstate I-85 bridge. The EAWSFPD is aware of the filing of this license surrender and is an active stakeholder in this process.

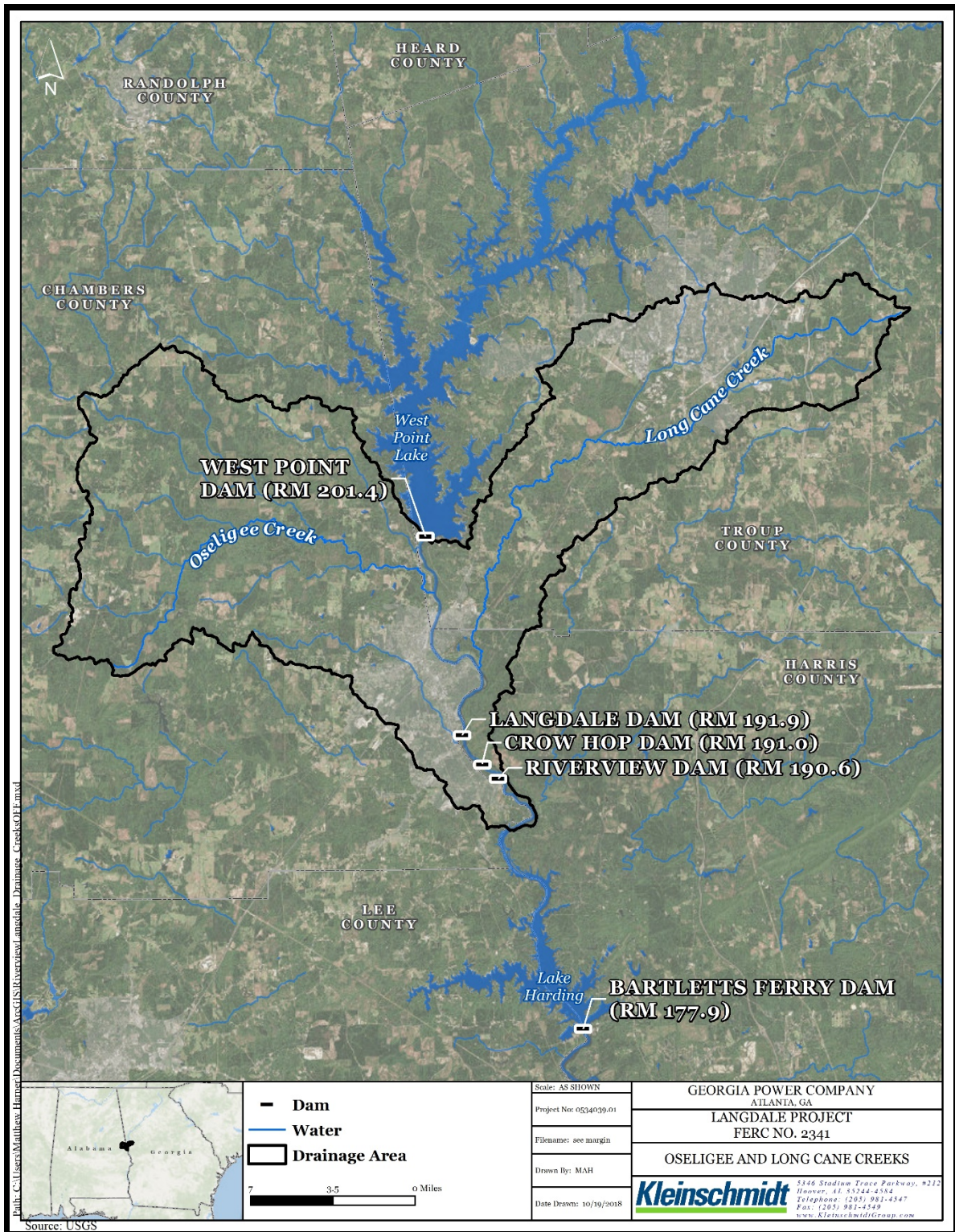


FIGURE 4-6 LANGDALE PROJECT DRAINAGE AREA: OSELIGEE AND LONG CANE CREEKS

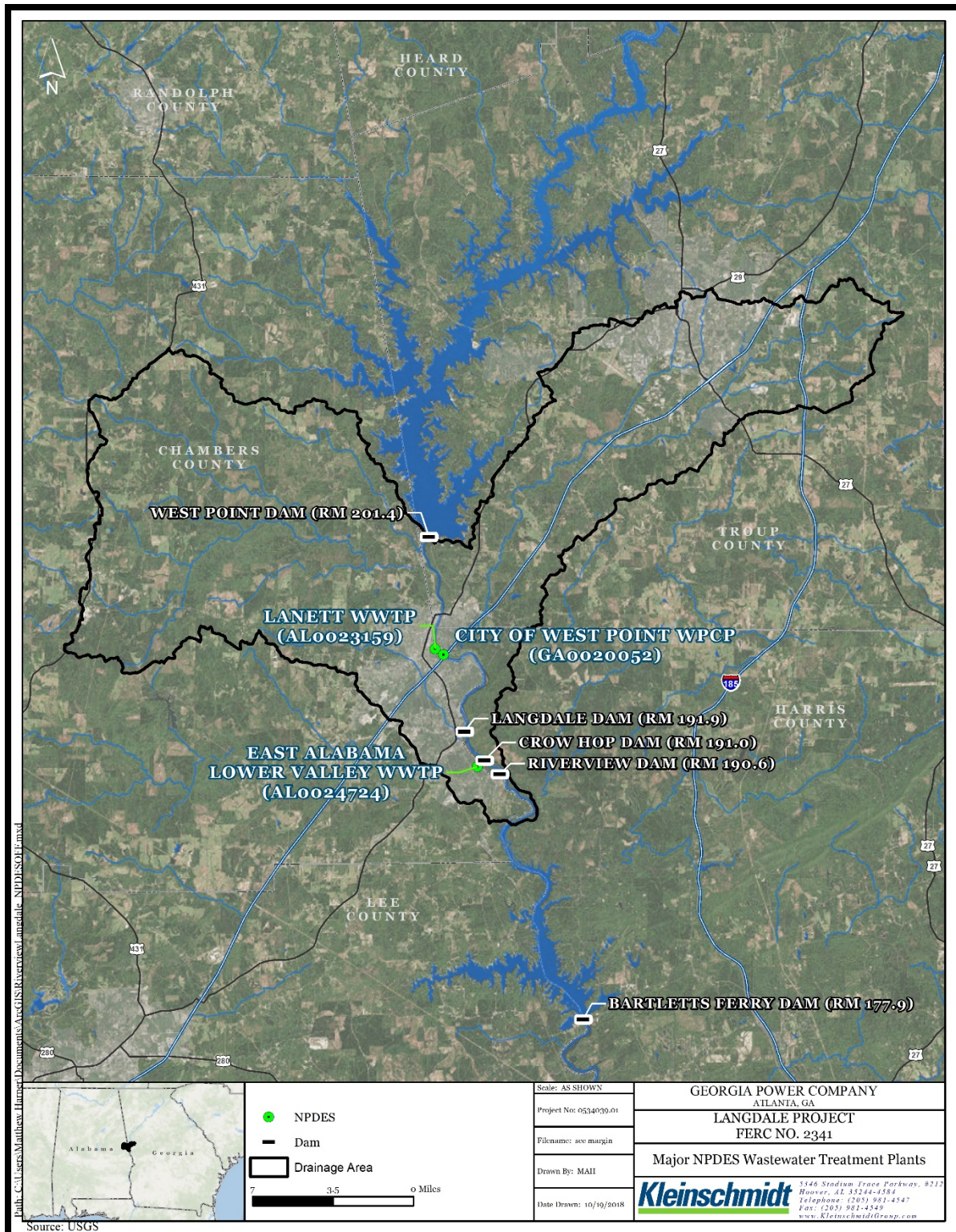


FIGURE 4-7 MAJOR NPDES WASTEWATER TREATMENT PLANTS IN THE PROJECT DRAINAGE AREA

4.3.1.2 WATER QUALITY

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 2016a).

The state of Alabama’s use classifications for the Chattahoochee River in the Project Area are Public Water Supply and Fish and Wildlife (ADEM 2017). The specific criteria applicable to the Georgia and Alabama classifications are presented in **Table 4-3**. The most recent 305(b) reports for Georgia and Alabama indicate that the Chattahoochee River in the Project Area is currently fully supporting its designated uses (GAEPD 2016b and ADEM 2016).

TABLE 4-3 GEORGIA AND ALABAMA WATER QUALITY CRITERIA FOR APPLICABLE CLASSIFICATIONS IN THE PROJECT AREA PORTION OF THE CHATTAHOOCHEE RIVER

Parameter	Georgia Standard for Drinking Water	Alabama Standard for Public Water Supply and Fish & Wildlife (F&W)
Bacteria	May through October: <ul style="list-style-type: none"> less than 200/100 milliliter (mL) November through April: <ul style="list-style-type: none"> less than 1,000/100 ml 	<i>E. coli</i> : 548 colonies/100 mL Geometric mean: 2,507 Colonies per 100 ml in any sample (PWS)
Dissolved Oxygen	Trout Streams: <ul style="list-style-type: none"> more than or equal to 6.0 milligrams/liter (mg/L) daily average more than or equal to 5.0 mg/L instantaneous Warmwater Streams: <ul style="list-style-type: none"> more than or equal to 5.0 mg/L daily average, more than or equal to 4.0 mg/L instantaneous 	More than or equal to 5.0 mg/L at all times
pH	6.0 – 8.5	6.0 – 8.5
Water Temperature	Less than or equal to 90° F	Less than or equal to 90° F

Source: GAEPD 2016, ADEM 2017

Water quality conditions in the Chattahoochee River basin, particularly in West Point Lake 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 303(d) list of impaired waters.

Between 2000 and 2013, the U.S. Geological Survey (USGS) and Georgia Environmental Protection Division (GAEPD) 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 (**Table 4-4**). Monthly average dissolved oxygen levels were generally above 5 milligrams/liter (mg/L), except for September (4.94 mg/L).

TABLE 4-4 SUMMARY OF MONTHLY AVERAGE WATER QUALITY DATA FOR THE CHATTAHOOCHEE RIVER UPSTREAM OF LANGDALE DAM

Month	Water Temperature (°C)	pH	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)
JAN	8.47	6.88	121	10.96
FEB	9.41	7.15	109	11.60
MAR	13.50	6.67	92	10.06
APR	16.90	6.78	90	8.89
MAY	21.92	6.44	102	7.32
JUN	25.52	6.80	98	6.59
JUL	26.49	6.46	97	5.50
AUG	27.67	6.46	107	5.29
SEP	26.28	6.94	123	4.94
OCT	22.40	7.06	122	7.26
NOV	16.60	7.01	136	8.39
DEC	12.96	6.82	127	10.10

Source: GAEPD 2018, USGS 2018

The USGS and GAEPD 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 (GAEPD 2018, USGS 2018).

4.3.2 ENVIRONMENTAL EFFECTS

Removal of the Project dam will have limited effects on water quantity because the reservoir has so little storage and the reservoir does not fluctuate. Although these effects should be minimal, dam removal will decrease the surface area of the river, resulting in slightly less surface evaporation.

The Project incorporates a low-head dam and is operated in run-of-river mode. As a run-of-river facility, the Project is small and shallow, with short retention times, and does not undergo thermal stratification or associated dissolved oxygen depletion. Though hypolimnetic releases from the upstream USACE West Point Dam can result in seasonally low dissolved oxygen levels in the Project reservoir, water flowing over the spillway at Langdale serve to reaerate lower dissolved oxygen water as it passes downstream. While aeration due to water flowing over the spillway would be lost with removal of the Project's dam, the river would subsequently flow over previously inundated shoals, which should result in similar aeration benefits.

4.3.2.1 CUMULATIVE IMPACTS ON WATER QUALITY

The Chattahoochee River is used intensely 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 intensively utilized for numerous purposes. Its waters are withdrawn to supply water for cities and counties, industry, and agriculture.

There are currently seven FERC-licensed hydroelectric projects on the mainstem of the Chattahoochee River (*Table 4-5*). There are also four USACE projects on the river: Lake Sidney Lanier (Buford), West Point Dam and Lake, Walter F. George Lock and Dam, and George W. Andrews Lock and Dam, which were authorized and developed for flood control, navigation, hydropower, recreation, and water supply. The larger developments on the river have cumulatively inundated about 110,000 acres in the Chattahoochee River Basin.

TABLE 4-5 CHATTAHOOCHEE RIVER RESERVOIRS

Basin/River/Project Name (FERC Project Number)	Owner/State/ Year Initially Completed	Drainage Area (sq mi)	Reservoir Size (ac)	Power Capacity (kW)
Buford Dam/Lake Lanier	USACE/GA/1957	1,034	38,542	127,000
Morgan Falls Dam/Bull Sluice Lake (2237)	GPC/GA/1903	1,360	673	16,800
West Point Dam and Lake	USACE/GA/1975	3,440	25,900	87,000
Langdale Dam and Lake (2341)	GPC/GA/1904- 1908	3,640	152	1,040
Riverview Dam and Lake (2350)	GPC/GA/1902	3,661	75	480
Bartletts Ferry Dam/Lake Harding (485)	GPC/GA/1926	4,240	5,850	173,000
Goat Rock Dam and Lake (2177)	GPC/GA/1912	4,510	965	38,600
Oliver Dam/Lake Oliver (2177)	GPC/GA/1959	4,630	2,280	60,000
North Highlands Dam and Lake (2177)	GPC/GA/1900	4,630	131	29,600
Walter F. George Lock and Dam and Lake	USACE/GA/1963	7,460	41,180	168,000
George W. Andrews Lock and Dam/Lake George W. Andrews	USACE/GA/1963	8,210	1,540	None

Source: USACE 2016; Georgia Power 2009

- ac acre
- GA Georgia
- GPC Georgia Power
- kW kilowatt
- sq mi square mile
- USACE U.S. Army Corps of Engineers

4.3.3 PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING

To address flow patterns resulting from various dam removal scenarios, Georgia Power proposes to develop a steady-state Hydrologic Engineering Center River Analysis System (HEC-RAS) model of the Chattahoochee River from the I-85 Bridge to the Bartlett’s Ferry reservoir, Lake Harding. Bathymetric survey data will be merged with terrestrial terrain data to produce the geometry necessary to define the river characteristics. A HEC-RAS model will be constructed using the merged terrain data set and will be calibrated to the Federal Emergency Management Agency Flood Insurance Study (FEMA FIS) flood profiles and USACE flood study profiles. Using the model, Georgia Power will evaluate the geomorphology of the Chattahoochee River in the reach between West Point Dam and Lake Harding. Based on the geomorphic evaluation and hydraulic results, Georgia Power will identify areas of potential aggradation or degradation for post-dam removal conditions. In addition, Georgia Power will conduct a sensitivity analysis for the HEC-RAS model. The final selected removal plan and the existing conditions model will be rerun for the range of uncertain input parameters to understand the range of possible results for post-dam removal conditions. Georgia Power will present results in the FERC surrender process for stakeholders to provide input.

Based on information gathered by the USACE during removal of the City Mills Dam and the Eagle and Phenix Dam on the Chattahoochee River, significant amounts of sediments do not

accumulate at small run-of-river projects (GEL Engineering 2009). Therefore, Georgia Power is not proposing to conduct sediment studies as part of the Project decommissioning.

Georgia Power proposes to collect water quality information and will coordinate with GAEPD to obtain any data that it may collect during decommissioning studies. Data collection and coordination will occur prior to removing the Langdale Dam to document the current temperature and dissolved oxygen levels during the late summer/fall period. This information will be available for comparison of water quality parameters (temperature and dissolved oxygen) following dam removal.

4.3.4 REFERENCES

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4.4 FISH AND AQUATIC RESOURCES

4.4.1 AFFECTED ENVIRONMENT

Langdale is a small run-of-river project that impounds approximately 152⁴ surface acres on the Chattahoochee River. The Project Area includes fall line riverine shoal habitats that historically supported a diverse array of native aquatic fauna (ESTI 1990). Existing habitat in the Project Area consists of pools, large shoal areas, side channels, and backwaters. The reach between the Langdale and Riverview projects consists of relatively wide, shallow, rocky areas that are characterized by pockets of turbulent flow (ESTI 1990).

Over 40 fish species and eight freshwater mussel species have been collected during previous studies in the Project Area, or in the project areas for other dams on upstream or downstream reaches of the Chattahoochee River (Auburn 1980; ESTI 1990; Georgia Power 2011) (*Table 4-6*). Several fish assemblage assessments conducted in the Langdale Project Area have documented numerous fish species. Auburn (1980) conducted a sampling effort that encompassed multiple habitat types upstream and downstream of the Project. Another source of information regarding fish assemblages near the Project includes a report compiled for Georgia Power that characterized fish species composition at both the Langdale and Riverview projects (ESTI 1990). Georgia Power also conducted mussel surveys during 2009 and 2010, as well as three seasonal fishery surveys during 2010, in the reach between Riverview and Bartletts Ferry (Georgia Power 2011).

Although some sport fishing occurs in the Project Area, use of the Project waters is somewhat limited because shallow, rocky bottoms and variable flows can create dangerous conditions (ESTI 1990). The downstream Lake Harding is more often utilized by anglers. The status of the sport fishery immediately upstream and downstream of the Project is not well documented, as no creel survey data exists for the Project Area. However, gamefish collected in the Project Area include Spotted Bass, Redear Sunfish, Bluegill, Largemouth Bass, Black Crappie, and Channel Catfish (*Table 4-6*) (Auburn 1980).

⁴ Based on USACE 2016 acreage for the Langdale Reservoir.

**TABLE 4-6 FISH SPECIES COLLECTED IN THE REACH OF THE CHATTAHOOCHEE RIVER
UPSTREAM AND DOWNSTREAM OF LANGDALE DAM**

FAMILY	SCIENTIFIC NAME	COMMON NAME
Petromyzontidae (Lampreys)	<i>Ichthyomyzon gagei</i>	Southern Brook Lamprey
Amiidae (Bowfins)	<i>Amia calva</i>	Bowfin
Lepisosteidae (Gars)	<i>Lepisosteus oculatus</i>	Spotted Gar
	<i>Lepisosteus osseus</i>	Longnose Gar
Clupeidae (Herrings and Shads)	<i>Dorosoma cepedianum</i>	Gizzard Shad
	<i>Dorosoma petenense</i>	Threadfin Shad
Cyprinidae (Minnows and Carps)	<i>Cyprinella venusta</i>	Blacktail Shiner
	<i>Cyprinus carpio</i>	Common Carp
	<i>Luxilus zonistius</i>	Bandfin Shiner
	<i>Nocomis leptocephalus</i>	Bluehead Chub
	<i>Notemigonus crysoleucas</i>	Golden Shiner
	<i>Notropis amplamala</i>	Longjaw Minnow
	<i>Notropis baileyi</i>	Rough Shiner
	<i>Semotilus atromaculatus</i>	Creek Chub
	<i>Semotilus thoreauianus</i>	Dixie Chub
	<i>Notropis texanus</i>	Weed Shiner
	<i>Campostoma pauciradii</i>	Bluefin Stoneroller
	<i>Cyprinella callitaenia</i>	Bluestripe Shiner
	<i>Hybopsis winchelli</i>	Clear Chub
	<i>Lythrurus atrapiculus</i>	Blacktip Shiner
	<i>Notropis hypsilepis</i>	Highscale Shiner
	<i>Notropis longirostris</i>	Longnose Shiner
<i>Notropis lutipinnis</i>	Yellowfin Shiner	
Fundulidae (Topminnows)	<i>Fundulus olivaceus</i>	Blackspotted Topminnow
Catostomidae (Suckers)	<i>Carpiodes cyprinus</i>	Quillback
	<i>Minytrema melanops</i>	Spotted Sucker
	<i>Erimyzon oblongus</i>	Creek Chubsucker
	<i>Hypentelium etowanum</i>	Alabama Hogsucker
	<i>Moxostoma rupiscartes</i>	Striped Jumprock
	<i>Moxostoma n. sp. cf. poecilurum</i>	Apalachicola Redhorse
	<i>Moxostoma lachneri</i>	Greater Jumprock
Ictaluridae (Catfishes)	<i>Ameiurus brunneus</i>	Snail Bullhead
	<i>Ameiurus catus</i>	White Catfish
	<i>Ameiurus natalis</i>	Yellow Bullhead
	<i>Ameiurus nebulosus</i>	Brown Bullhead
	<i>Ameiurus serracanthus</i>	Spotted Bullhead
	<i>Ictalurus punctatus</i>	Channel Catfish

FAMILY	SCIENTIFIC NAME	COMMON NAME
	<i>Noturus leptacanthus</i>	Speckled Madtom
Esocidae (Pikes and Pickerels)	<i>Esox americanus</i>	Redfin Pickerel
	<i>Esox niger</i>	Chain Pickerel
Atherinopsidae (Silversides)	<i>Labidesthes sicculus</i>	Brook Silverside
Poeciliidae (Livebearers)	<i>Gambusia affinis</i>	Western Mosquitofish
	<i>Gambusia holbrooki</i>	Eastern Mosquitofish
Cottidae (Sculpins)	<i>Cottus carolinae</i>	Banded Sculpin
Moronidae (Temperate Basses)	<i>Morone chrysops</i>	White Bass
	<i>Morone saxatilis</i>	Striped Bass*
	<i>Morone chrysops X M. saxatilis</i>	Hybrid Bass*
Centrarchidae (Sunfishes)	<i>Lepomis auritus</i>	Redbreast Sunfish
	<i>Lepomis cyanellus</i>	Green Sunfish
	<i>Lepomis auritus X L. cyanellus</i>	Hybrid Redbreast Sunfish-Green Sunfish
	<i>Lepomis gulosus</i>	Warmouth
	<i>Lepomis macrochirus</i>	Bluegill
	<i>Lepomis marginatus</i>	Dollar Sunfish
	<i>Lepomis megalotis</i>	Longear Sunfish
	<i>Lepomis microlophus</i>	Redear Sunfish
	<i>Lepomis miniatus X L. punctatus integrade</i>	Intergrade Between Redspotted Sunfish and Spotted Sunfish Sp.
	<i>Micropterus cataractae</i>	Shoal Bass
	<i>Micropterus cataractae X M. punctulatus</i>	Hybrid Shoal Bass-Spotted Bass
	<i>Micropterus coosae</i>	Redeye Bass
	<i>Micropterus henshalli</i>	Alabama Bass
	<i>Micropterus punctulatus</i>	Spotted Bass
	<i>Micropterus salmoides</i>	Largemouth Bass
	<i>Pomoxis annularis</i>	White Crappie
	<i>Pomoxis nigromaculatus</i>	Black Crappie
Percidae (Perches and Darters)	<i>Etheostoma swaini</i>	Gulf Darter
	<i>Etheostoma rufilineatum</i>	Redfin Darter
	<i>Perca flavescens</i>	Yellow Perch
	<i>Percina nigrofasciata</i>	Blackbanded Darter

*Stocked in Lake Harding, currently unlikely to occur upstream of Riverview Project
Source: Georgia Power 2011

Auburn University (1980) collected 21 fish species representing nine families from five sampling stations. Collection sites encompassed four general habitat types (main-channel

shoreline, creek, rip-rap, and inter-island areas) in the Project Area. Five species represented nearly 78 percent of the total number of fish caught; Bluegill, Black Crappie, Redbreast Sunfish, Common Carp, and Largemouth Bass. No other species represented more than five percent of the total number caught. Fish abundance was highest in main-channel shoreline habitat. Specifically, rip-rap along the shoreline produced over 90 percent of the total number of fish collected.

In more recent surveys, Georgia Power (2011) found Redbreast Sunfish to be the dominant species present in the Project Area upstream of Lake Harding. Other common species include Bluegill, Spotted Bass, Redear Sunfish, Snail Bullhead, and Greater Jumprock. These five species represent approximately 75 percent of the total catch.

Freshwater mussel surveys have not been conducted above or below the Project; however, mussel surveys have occurred near Bartletts Ferry Reservoir (Lake Harding) and associated tributaries, including the reach immediately downstream of the Riverview Project. Those surveys found approximately 900 live mussels representing 8 species (Georgia Power 2011) (*Table 4-7*). Eastern floater was the most common species collected. One of these eight species, Delicate spike, is currently listed as state endangered in Harris County, Georgia and is under review as a candidate species for listing under the ESA. A single individual was found at the upstream end of the Bartletts Ferry reservoir near the shoals (Georgia Power 2012).

TABLE 4-7 MUSSEL SPECIES COLLECTED IN THE VICINITY OF THE RIVERVIEW AND BARTLETTS FERRY PROJECTS DURING 2009 AND 2010

Common Name	Scientific Name
Delicate spike	<i>Elliptio arctata</i>
Gulf slabshell	<i>Elliptio fumata</i>
Gulf spike	<i>Elliptio pullata</i>
Washboard	<i>Megaloniaias nervosa</i>
Eastern floater	<i>Pygandodon cataracta</i>
Giant floater	<i>Pyganodon grandis</i>
Paper pondshell	<i>Utterbackia imbecilis</i>
Southern rainbow	<i>Villosa vibex</i>

Source: Georgia Power 2012

4.4.2 ENVIRONMENTAL EFFECTS

Georgia Power’s proposal to surrender the Project license and remove the Langdale Dam would open the approximately 10.8 RM of riverine habitat that exists between the West Point Dam and the headwaters of Riverview Dam. The Langdale Dam is approximately 9.5 RM downstream of West Point Dam and Riverview Dam is 0.8 RM downstream of Langdale Dam. Removal of the Project would provide a longer riverine reach that may improve conditions for fish that make seasonal movements within the river system. Dam removal would return connectivity to this reach of the Chattahoochee River, and would allow for fish spawning runs

throughout the entire river reach between West Point and Riverview Dam. In addition, the aquatic “riverine” habitat conditions in this reach are expected to improve. Areas that are currently lentic would be restored to lotic, flowing habitats. Shoals that provide important habitat to species including Shoal Bass, several sucker species, and freshwater mussel species would be restored, and the total amount of shoal habitat in this river reach would likely increase. Spring spawning runs of fish including Shoal Bass, sucker species, and shad species that currently reside downstream of Langdale Dam would no longer be impeded by blockages associated with the Project.

4.4.3 CUMULATIVE EFFECTS

Georgia Power’s proposal to surrender the Project licenses and remove both the Langdale and Riverview dams would open the approximately 10.8 RM of riverine habitat that exists between the West Point Dam and the headwaters of Lake Harding. Therefore, removing a series of dams would provide a long-term, beneficial cumulative effect. Removal of the dams would provide an even longer riverine reach that may improve conditions for fish that make large scale seasonal movements within the river system. Removal of both dams would return greater connectivity to this reach of the Chattahoochee River, and would allow for fish spawning runs throughout the entire river reach between West Point and Bartletts Ferry.

Additional shoal habitat important to species including Shoal Bass, sucker, and freshwater mussel species would be restored, and the total amount of shoal habitat in this river reach would increase. Spring spawning runs of fish including Shoal Bass, sucker species, and shad species that currently reside downstream of Riverview Dam would no longer be impeded by blockages associated with the Projects. Fish that reside in or just upstream of Lake Harding’s headwaters would have access to the approximately 23.5 RM upstream reach⁵ to find suitable aquatic habitat conditions year-round.

Stocked gamefish species associated with Lake Harding (i.e., Striped Bass and hybrid Striped Bass) are currently limited to Lake Harding and the reach of the Chattahoochee River upstream to Riverview Dam. Full or partial dam removals would allow these popular gamefish to move more freely, particularly during the spring when these fish make upstream spawning runs. This increased connectivity may improve the sport fishery by providing anglers with opportunities to catch Striped Bass and hybrid Striped Bass throughout the Chattahoochee River between West Point Dam and Bartletts Ferry Dam.

4.4.4 PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING

Georgia Power is proposing to conduct a mussel survey in the immediate area upstream and downstream of Langdale Dam where localized dam removal deconstruction activity is proposed. This study will be implemented prior to dam removal.

⁵ The distance from West Point Dam to Bartletts Ferry Dam is approximately 23.5 RM.

4.4.5 REFERENCES

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4.5 WILDLIFE AND TERRESTRIAL RESOURCES

4.5.1 AFFECTED ENVIRONMENT

4.5.1.1 WILDLIFE RESOURCES

Wildlife resources are not based solely on the quality of Project lands but also on the quality of the wildlife habitat available on the surrounding lands. The majority of the 16.7 acres of Project lands in Chambers County, Alabama has been altered by human activity and is of low wildlife value. The close proximity of the industrial and urban residential area of Valley, Alabama indicates that wildlife that can tolerate human activities are the primary users of this habitat. This includes songbirds, raccoons, opossums, rabbits, and squirrels (ADCNR 2018a, 2018b and Mirarchi 2004).

There are approximately 51 mammal species present in Alabama and Georgia that may occur in the Project Vicinity. Common mammals that are characteristic of habitats occurring in the Project Vicinity include white-tailed deer, coyote, grey fox, red fox, raccoon, and several small mammals. Many species may cross through the Project Area due to the location of the Project along a river corridor. The Project Area may also provide limited habitat for reptiles and amphibians. Wetlands with adjacent, undeveloped upland in the Project Area may provide amphibians access to aquatic breeding sites, adjacent terrestrial non-breeding habitat, and permeable migration pathways between these habitat elements (ADCNR 2018a, d). The official Alabama Ornithological Society state list includes 420 bird species. There are 178 bird species known to breed in Alabama with 158 species that regularly breed in the state (ADCNR 2018b). Both migratory and non-migratory birds are present in Alabama and Georgia and are anticipated to use habitats within the Project Area at least in part for feeding, nesting, mating, or as a travel corridor. Migratory waterfowl species, such as the mallard and black duck, would be expected to occupy the Project Area during breeding season. Similarly, neotropical avian species such as flycatchers and warblers likely occupy the lands surrounding the Project during the spring, summer, and fall before returning to the tropics of Central and South America during the winter season. Passerine species may inhabit the forested, shrubland areas, roadsides, and residential areas of the Project Area. Additionally, many avian species may make their homes in the littoral zones of the Project Area.

The undeveloped shoreline and wetlands of the Project Area provide high quality habitat for a diverse wildlife community. Over 100 bird species, including neotropical migrant songbirds, raptors, waterfowl, and shorebirds, may use the Chattahoochee River as a migration pathway or may breed or winter in the Project Area. Common mammals include white-tailed deer (*Odocoileus virginianus*), gray squirrel (*Sciurus carolinensis*), and a variety of smaller mammals. There are also numerous salamanders, newts, frogs, turtles, and snakes that may occur in the Project Area (Georgia Power 2011).

Other significant areas of managed wildlife habitat in the Project shoal bass Vicinity include: Blanton Creek Wildlife Management Area which is managed by the GDNR and Georgia Power; Blanton Creek M.A.R.S.H. Project, managed by GDNR, Ducks Unlimited and Georgia

Power; West Point Wildlife Management Area, managed by the USACE; Callaway Gardens; and Roosevelt State Park, managed by GDNR (GDNR 2018).

Local GDNR wildlife management areas are generally managed for white-tailed deer, wild turkey, ducks and geese, quail, rabbit and squirrel, but also benefit native non-game mammals (mice, chipmunks, and skunks) and fur-bearers (raccoon, opossum, beaver, muskrat, otter and mink) (GDNR 2018 and ADCNR 2018c). Public wildlife management areas also provide natural habitat and supplemental housing and feeding for songbirds, native birds of prey, reptiles and amphibians. Any wildlife species occurring on public lands may occur within the Project Vicinity, but as transient species.

4.5.1.2 TERRESTRIAL RESOURCES

The 11.05 acres of Project lands in Harris County, Georgia are a mixture of mixed hardwoods and pines. This area contains mast producing trees (oaks, and hickories) that provide forage and cover for wildlife. The surrounding lands outside of the Project boundary are a mixture of forest, developed areas and agriculture. The forested areas are periodically harvested and are found in various successional stages from early successional to mature forest, but do not generally include old growth forest stands or stands that are older than about 25 years (Georgia Forestry Commission 2015). The proximity of the industrial and urban residential area of Valley, Alabama limits the availability of naturally vegetated terrestrial habitats on the west side of the Chattahoochee River.

Extensive alluvial wetland systems have developed in and adjacent to the Project lands. These wetlands are formed on river-deposited sediments from the Chattahoochee River and tributaries and include extensive palustrine forested (PFO) wetlands downstream of the Project dam (USFWS 2018). Upstream of the dam, extensive wetlands dominated by palustrine emergent (PEM) marsh and palustrine scrub-shrub (PSS) and palustrine unconsolidated bottom (PUB) are found (USFWS 2018). As described in greater detail in the Wildlife subsection above, these well-developed riverine wetland systems provide important habitat for many wetland and water-dependent species such as beaver, wading birds, and waterfowl. *Figure 4-8* shows the National Wetland Inventory (NWI) wetlands in and adjacent to Project lands.

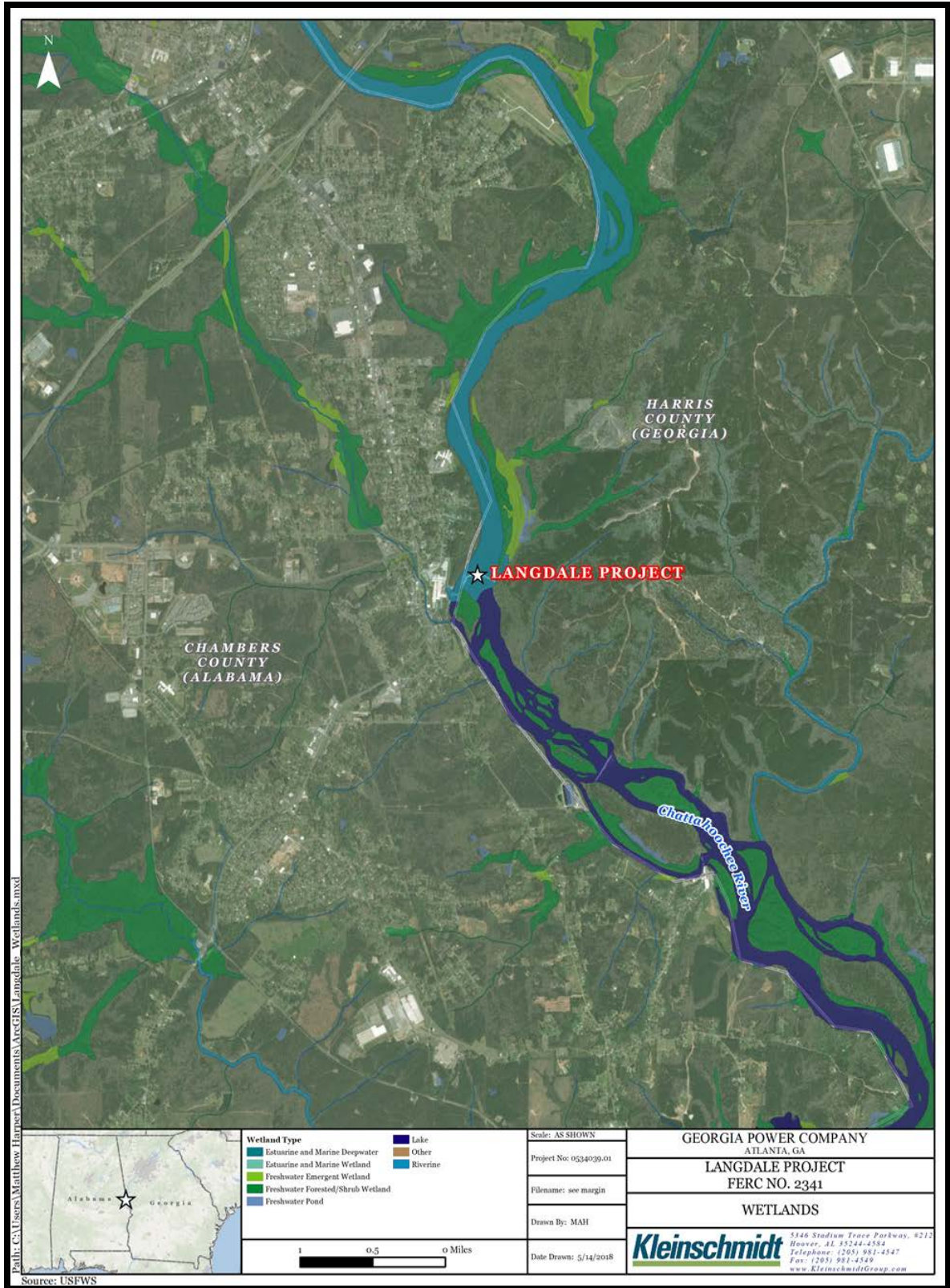


FIGURE 4-8 NWI WETLANDS NEAR THE PROJECT

Georgia Power conducted field surveys during 1988 to describe existing botanical resources within the Project Area (Gaddy 1989a). Four plant communities were described as existing within the Project boundary. These include pine-mixed hardwoods (6 acres), mixed hardwood-pine (5 acres), hardwood floodplain (1 acre), and non-woody emergent (0.5 acre).

Gaddy (1989) describes dominant plants associated with the PFO plant communities along this stretch of the Chattahoochee River as sycamore (*Platanus occidentalis*), willows (*Salix nigra*), boxelders (*Acer negundo*), and privet (*Ligustrum sinense*). Typical understory species include Virginia buttonweed (*Diodia virginiana*), punctate knotweed (*Persicaria punctate*), common needlerush (*Juncus effuses*), winged sedge (*Carex alata*), and hop sedge (*Carex lupulina*).

Upland vegetation in the Project lands and surrounding area is mostly mixed deciduous hardwood forest along low-lying areas, such as adjacent to wetlands near the Chattahoochee River and tributaries, and oak-hickory-pine forests in drier areas. Typical hardwood species include post oak (*Quercus stellata*), blackjack oak (*Quercus marilandica*), red oak (*Quercus falcata*), white oak (*Quercus alba*), mockernut hickory (*Carya alba*), and sweetgum (*Liquidambar styraciflua*) (SCS 1956; Georgia Forestry Commission, 2015). Shortleaf pine (*Pinus echinata*) is the most common pine species, though loblolly pine (*Pinus taeda*) grows on heavier soils (SCS 1956; Georgia Forestry Commission, 2015).

4.5.2 ENVIRONMENTAL EFFECTS

Georgia Power's proposal to surrender the Project license and remove all or a portion of the Project dam and spillway would involve activities directly affecting upland terrestrial, wetland, riparian, or littoral habitats for wildlife and botanical resources. However, no significant changes to wetland structure or function as a result of hydrologic modification are expected downstream of the Project; therefore, existing habitat would not be adversely affected downstream, if the area were to continue to flood during high flows post-dam-removal.

Wetlands upstream of the Langdale Dam would continue to be flooded during peak flows; however, these areas would be expected to become drier, especially during lower flows, because of dam removal. Existing PEM and PSS wetlands are expected to become PFO wetlands and rich alluvial upland forest. New PEM and PSS wetlands should form along the river banks that would be exposed by dam removal, and no overall loss of wetland area or function is expected. Although wetlands upstream of the Langdale Dam have the potential to gradually transition from PEM and PSS to PFO, upstream tributaries will continue to help maintain wetlands upstream of the dam, both in terms of sediment and hydrologic inputs. Upland habitats would be affected temporarily, but over time will provide similar habitat to that present during existing operations. Dam removal may cause a temporary disturbance to wildlife within the Project Area; however, adjacent habitat should satisfy species needs. The developing PFO habitat could allow for increased abundance of deer, song birds, and raptors.

4.5.3 CUMULATIVE EFFECTS

The cumulative effect of removing both Langdale and Riverview Project dams would have a long-term beneficial effect on riverine environment. Wetlands are limited in the Project Area

and therefore, there is no expected adverse effects on wetlands and the potential shift from PEM and PSS wetland to PFO wetlands. The USACE has provided guidance (Regulatory Letter Guidance No. 18-01 Date: 25 September 2018) on jurisdictional wetlands in the removal of obsolete dams. The USACE notes that “most of the adverse effects from removing dams and other obstructions are short-term and are eventually supplanted by the long-term restoration of stream structure, function, and dynamics” (USACE 2018).

4.5.4 PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING

Georgia Power does not propose any wildlife or terrestrial resource studies as part of the Project license surrender and decommissioning.

4.5.5 REFERENCES

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4.6 RARE, THREATENED, AND ENDANGERED SPECIES

4.6.1 AFFECTED ENVIRONMENT

4.6.1.1 TERRESTRIAL SPECIES

Georgia Power surveyed the Project Area for federal and state-listed rare, threatened, and endangered (RTE) species of plants and animals (Gaddy, 1991a; Gaddy, 1991b; Gaddy, 1991c; Gaddy, 1991d; ESTI, 1990b; and ESTI, 1992). No terrestrial RTE species were found in the Project Area.

The Bald Eagle (*Haliaeetus leucocephalus*) does not presently use the Project Area for nesting, but is present in the general vicinity and suitable foraging habitat is present in the Project waters. Although the bald eagle is no longer listed or protected under the Endangered Species Act (ESA), it is protected under the Bald and Golden Eagle Protection Act.

Recent canvassing of Georgia's Natural Heritage Database (2018) describes several terrestrial species of plants and wildlife potentially occurring within Harris and Troup counties in Georgia that also potentially occur in the Project Vicinity; however, no critical habitat for these species has been designated within the Project lands and these species have not been observed using Project lands.

A USFWS IPaC report also lists red-cockaded woodpecker (*Picoides borealis*) and Georgia rockcress (*Arabis georgiana*) as potentially occurring in the Project Vicinity; however, no critical habitat occurs within the Project lands and these species have not been observed using Project lands (IPaC 2018).

4.6.1.2 AQUATIC SPECIES

Sammons (2011) collected 40 Shoal Bass in the headwaters of Bartletts 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. Shoal Bass are currently listed by the Alabama Department of Conservation and Natural Resources (ADCNR) and GDNR as imperiled in both Chambers County, Alabama and Harris County, Georgia. A total of 19 fish species and nine mussel species currently have some conservation status in one or both Project counties. This includes seven mussel species that are listed as federally threatened or endangered, or are currently candidates for such listing (**Table 4-8**). A single individual of the Delicate spike, a Georgia state-listed endangered species, was collected during 2009 and 2010 surveys in the 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 ESA.

TABLE 4-8 FISH AND MUSSEL SPECIES WITH STATE OR FEDERAL CONSERVATION STATUS IN CHAMBERS COUNTY, ALABAMA AND HARRIS COUNTY, GEORGIA

MUSSEL SPECIES		
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)
FISH SPECIES		
Greater Jumrock	<i>Moxostoma lachneri</i>	Vulnerable (Alabama)
Apalachicola Redhorse	<i>Moxostoma sp. cf. poecilurum</i>	Imperiled (Alabama), Vulnerable (Georgia)
Bluefin Stoneroller	<i>Campostoma pauciradii</i>	Vulnerable (Alabama)
Tallapoosa Shiner	<i>Cyprinella gibbsi</i>	Vulnerable (Alabama)
Lined Chub	<i>Hybopsis lineapunctata</i>	Vulnerable (Alabama)
Bandfin Shiner	<i>Luxilus zonistius</i>	Vulnerable (Alabama)
Highscale Shiner	<i>Notropis hypsilepis</i>	Imperiled (Alabama), Vulnerable (Georgia)
Stippled Studfish	<i>Fundulus bifax</i>	Imperiled (Alabama)
Shoal Bass	<i>Micropterus cataractae</i>	Imperiled (Alabama), Imperiled (Georgia)
Lipstick Darter	<i>Etheostoma chuckwachatte</i>	Imperiled (Alabama)
Swamp Darter	<i>Etheostoma fusiforme</i>	Vulnerable (Alabama)
Tallapoosa Darter	<i>Etheostoma tallapoosae</i>	Vulnerable (Alabama)
Yellow Perch	<i>Perca flavescens</i>	Vulnerable (Alabama)
Bronze Darter	<i>Percina palmaris</i>	Vulnerable (Alabama)
Muscadine Darter	<i>Percina smithvanizi</i>	Imperiled (Alabama)
Tallapoosa Sculpin	<i>Cottus tallapoosae</i>	Vulnerable (Alabama)
Snail Bullhead	<i>Ameiurus brunneus</i>	Vulnerable (Alabama)
Spotted Bullhead	<i>Ameiurus serracanthus</i>	Imperiled (Alabama), Vulnerable (Georgia)
Bluestripe Shiner	<i>Cyprinella callitaenia</i>	Imperiled (Georgia)

Source: Georgia Power 2011

4.6.2 ENVIRONMENTAL EFFECTS

Incidental bald eagle use of the Project Area would not be adversely affected by license surrender and dam removal. The forage base for eagles primarily consists of fish. Although the fish assemblage may change because of dam removal, eagles would simply adjust to the species of fish available. Dam removal would not result in the removal of mature trees that could be used for perching or nesting. Dam removal activities could result in limited destruction impacts to individual mussel species within the construction footprint. Dam removal activities could also have some short-term limited impacts on aquatic species within the removal footprint.

4.6.3 PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING

Georgia Power proposes to collect additional mussel data in the Project Area both upstream and downstream of Langdale Dam, primarily focused on the proposed construction area. This study will be implemented as part of the decommissioning plan and prior to construction activities.

4.6.4 REFERENCES

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4.7 RECREATION, AESTHETICS, AND LAND USE

4.7.1 AFFECTED ENVIRONMENT

4.7.1.1 REGIONAL RECREATION RESOURCES

There are numerous regional recreation opportunities within the Project Vicinity, including West Point Lake, approximately 9.5 RM upstream of the Project Dam, the Blanton Creek WMA, and the Bartletts Ferry reservoir, less than 1.3 RM miles downstream of the Project Dam. Other major recreation opportunities within an hour's drive from the Project include the Middle Chattahoochee Project (Goat Rock, Oliver, and North Highlands reservoirs), and Lake Martin, Yates Reservoir, and Thurlow Reservoir on the Tallapoosa River in Alabama northwest of the Project (Georgia Power 2011a).

West Point Lake includes about 25,900 surface acres and 525 miles of shoreline, and extends about 35 miles along the Chattahoochee River. Recreation opportunities at West Point Lake include fishing, camping, boating, picnicking, swimming, hiking, and hunting. There are 35 recreation areas at West Point Lake, including 21 public day use parks, two privately operated marinas, and eight campgrounds (four private and four operated by USACE); 30 of the recreation areas provide boat ramp access to the lake. Fishing is a popular activity at West Point Lake, with boat, bank and public fishing pier access. The USACE also manages approximately 10,000 acres of hunting land at West Point Lake. Annual recreation visitation at West Point Lake in 2012 was over two million visitor days (USACE 2018, Georgia Power 2011).

The 4,800-acre Blanton Creek WMA is located in Harris County, Georgia, downstream of the Project, and is managed by the GDNR on lands owned by Georgia Power. The Blanton Creek WMA is operated for wildlife management, watershed protection, visual aesthetics, and commercial timber harvest. Public recreational opportunities at the WMA include wildlife viewing and photography, picnicking, fishing, hiking, and hunting opportunities for deer, turkey, small game, dove and waterfowl (Georgia Wildlife 2018, Georgia Power 2011).

Lake Harding includes 5,850 surface acres and 156 miles of shoreline, and extends 12.7 RM upstream on the Chattahoochee River to Riverview Dam. There are seven public recreation areas at Bartletts Ferry Reservoir, and two private marinas, providing boating, fishing, camping and picnicking recreation opportunities. Georgia Power maintains six recreation access areas as part of the Bartletts Ferry Project, including Longbridge Park, Halawakee Boat Ramp, Po Boy's Boat Recreation Area and Parking, Chattahoochee Valley Recreation Area, Valley Park, Blanton Creek Recreation Area, and Idle Hour Park. As provided on the 2015 FERC Form 80, Georgia Power estimated approximately 137,674 recreation daytime visitation days during 2014 at the Bartletts Ferry recreation areas (Georgia Power 2015a).

On July 17, 2013, the Trust for Public Land (TPL) finalized a Feasibility and Master Plan (Plan) for Portages and Launches on the Chattahoochee Blueway. The TPL looked at a 37-mile stretch of the Chattahoochee River from West Point Dam to Columbus and recommended the upper 12 miles for viable development of the Blueway paddling trail. Parts I and II of the

Plan recommendations include launches, portages/livery shuttle and signage. Part III recommends boat and fish water passage routes around the Langdale Dam and suggests that complete removal of the dam for the benefit of boat and fish passage should be given equal if not greater consideration if Georgia Power makes an independent decision to cease power generation at these sites. The Plan to be completed by TPL or separate Chattahoochee Blueway group, includes recommendations to improve recreation access at the Langdale Project, including parking, grading, informational and safety signage, and measures to provide universal access at the west bank take-out and portage trail enhancements (McLaughlin Whitewater 2013). Georgia Power supported this project by installing the formal takeout on the west side of the river, just 0.13 miles upstream of the dam. The takeout is universally accessible. TPL also has plans to complete parking, a livery shuttle route and signage, and may consider a foot route option on the east side of the river.

Approximately 35 miles downstream or “nearby” in the downtown Columbus, Georgia and Phenix City, Alabama area, a 2.3 mile constructed whitewater venue was added to the Riverwalk linear Park as a result of a joint project between UPTown Columbus, Phenix City and the USACE. The whitewater component was constructed as an ancillary project to the USACE’s Chattahoochee River Aquatic Ecosystem Restoration Project, which consisted of removal of Eagle and Phenix Dam in 2012 and City Mills Dam in 2013. This project provides an unimpounded engineered whitewater experience in an urban setting.

4.7.1.2 RECREATION FACILITIES WITHIN THE PROJECT AREA

Project-related recreation areas within the existing Project Area include the Cemetery Road boat launch area located approximately 0.3 miles downstream of the Project dam, including a boat ramp, accessible courtesy dock and fishing pier, parking, lighting, and signage (*Table 4-9*). The City of Valley owns this property, but Georgia Power funded the improvements as a result of the 1993 relicensing for the Langdale Project and a March 27, 1997 FERC Order Approving Revised Recreation Plan.

**TABLE 4-9 NON-PROJECT RECREATION ACCESS AREAS
IN THE RIVERVIEW PROJECT VICINITY**

Facility	Location	Owner	Capacity	Proximity
Concrete Boat Launch, Paved Parking Area	West Point	USACE	Unknown – parking area shared with Fire Department	6 miles upstream
Unpaved Boat Launch	Langdale	City of Valley	2-3 cars with trailers	<1/2 miles upstream of Langdale Dam
Boat Launch	Cemetery Road	City of Valley	5-8 cars with trailers	Between the Langdale and Riverview dams

Source: FERC 1993

Due to development and limited access to the area, the Project does not offer any significant recreation potential other than bank fishing and a small area for boat fishing. There is no access to the Georgia side of the Project due to the remoteness of highway access in the area and the adjacent property being owned by private entities. In addition, there is no demand for additional recreational facilities.

Pursuant to Order No. 330, FERC requires licensees to file FERC Form No. 80 (Form 80) recreation reports for each project development every 6 years, unless the licensee obtains an exemption from FERC. The FERC uses information from Form 80 reports to inventory recreation facilities located at FERC-licensed projects, to determine if the facilities are meeting the public's recreation demand and needs, and to identify where additional amenities may be needed to meet future needs (FERC 2014a, 2015). The most recent Form 80 filing for the Langdale Project was completed on March 31, 2015. Recreation visitation at the Project was estimated at 5,525 daytime visitor days during 2014, with the boat launch area estimated at 30 percent capacity (Georgia Power 2015b).

4.7.1.3 RECREATION NEEDS IDENTIFIED IN MANAGEMENT PLANS

Alabama and Georgia Statewide Comprehensive Outdoor Recreation Plans

The Alabama 2013-2018 State Comprehensive Outdoor Recreation Plan (Alabama SCORP) provides information about the use and demand for outdoor recreation facilities and trails within Alabama (ADECA 2013). The Alabama Department of Economic and Community Affairs (ADECA), as part of the 2013 Alabama SCORP update, conducted surveys, user groups, and one-on-one interviews of recreation providers and stakeholders to define recreation trends, issues, benefits, and effects, as well as recreation needs throughout the state.

The Alabama SCORP identified recreation needs both statewide and within the planning regions. For the statewide assessment, Alabama residents indicated a need for: additional hiking trails (10.6 percent); equestrian trails and facilities (10.0 percent); motorized trails and facilities (9.4 percent); linear parks, rail trails, and bikeways (7.5 percent); parks and park improvements (6.3 percent); bicycle trails (6.3 percent); bike/pedestrian facilities (6.3 percent); and access to public waters (5.6 percent). For the planning region assessment, the Alabama SCORP indicated regional needs for the 12 regional planning councils that are affiliated with the Alabama Association of Regional Councils. The Project is located within Planning Region 4, the East Alabama Regional Planning and Development Commission, which includes Calhoun, Chambers, Cherokee, Clay, Cleburne, Coosa, Etowah, Randolph, Talladega, and Tallapoosa Counties. Within Region 4, the top recreation needs identified included parks, picnic areas, and playgrounds (ADECA 2013).

The Georgia Plan for Outdoor Recreation 2017-2021, Statewide Comprehensive Outdoor Recreation Plan (Georgia SCORP) identifies outdoor recreation resources, supply, demand and trends, and identifies strategic priorities and goals to maximize outdoor recreation opportunities. The Georgia SCORP identifies three primary goals which are further supported by a series of strategies to support these goals. The three key goals include: promote healthy communities, enhance economic vitality, and conserve natural resources. The Georgia SCORP

also identifies the importance of collaboration among government agencies and corporate and non-profit sectors to accomplish these goals (GDNR 2017).

National Wild and Scenic and State Protected River Segments

There are no nationally designated wild and scenic rivers or state protected river segments within or adjacent to the Project boundary, nor are there any locations within the Project boundary that are under study for such designations.

National Trails and Wilderness Areas

There are no National Trail Systems or Wilderness Areas within the Langdale Project boundary, and no lands within the Project boundary are under study for inclusion in the National Trails System or designated as or under study for inclusion as a Wilderness Area (Wilderness.net 2016). The closest National Wilderness area is the Cheaha Wilderness Preserve, located within the Talladega National Forest approximately 60 miles northwest of the Project. The 7.5-mile Chattahoochee Valley Railroad Trail (Trail), designated as a National Recreation Trail in 2011, offers biking, jogging, and walking recreation opportunities. The Trail follows portions of the railbed of the previous Chattahoochee Valley Railroad and extends through Shawmut, Langdale, Fairfax and River View Villages, Alabama, to the west of the Chattahoochee River (American Trails 2018, Alabama Communities of Excellence 2018).

4.7.2 AESTHETIC RESOURCES

The aesthetic character within the Project Vicinity is primarily gently rolling hills with open agricultural and industrial areas. The water surface area is open with a relatively narrow, riverine-type visual character. The shoreline areas are predominantly densely wooded along the eastern Georgia shoreline, and mixed wooded and industrial and commercial use along the western Alabama shoreline. The views are typically short views upstream and downstream, with the key public viewing areas at the Cemetery Road boat launch area downstream of the Project.



PHOTO 4-1 LANGDALE DAM



PHOTO 4-2 CEMETERY BOAT LAUNCH AND DOCK

4.7.3 LAND USE

The Project is located in Harris County, Georgia, and Chambers County, Alabama within the middle Chattahoochee River basin, about 30 miles northwest of Columbus, Georgia and about 25 miles northeast of Auburn, Alabama. Predominant land uses within Harris County include agricultural/forested (73 percent), recreation/parks/conservation (12.7 percent), and residential (10.7 percent) (*Table 4-10*) (River Valley Regional Commission 2014). Predominant land uses within Chambers County, Alabama include low density urban and forested/pasture (Georgia Power 2011a).

TABLE 4-10 EXISTING LAND USE HARRIS COUNTY, GEORGIA (2014)

LAND USE CATEGORY	ESTIMATED ACREAGE	PERCENT (%) OF TOTAL
Residential	31,772	10.7%
Commercial	245	0.1%
Industrial	206	0.1%
Transportation/Communication/Utility	5,063	1.7%
Recreation/Parks & Conservation	37,943	12.7%
Public/Institutional	531	0.2%
Agricultural/Forestry	218,298	73.0%
Vacant/Undeveloped	4,726	1.5%
Total	298,783	100.0%

Source: River Valley Regional Commission, 2014

Lands within the Project boundary total 27.75 acres, with 11.05 acres within Harris County, Georgia and 16.7 acres within Chambers County, Alabama. The land on the Georgia side of the Chattahoochee River (Harris County) is undeveloped and primarily forested or used for agriculture and provides no access from the highway to the riverbank. The Alabama side of the Project Area (Chambers County) is developed, with industrial and commercial ownership predominating over residential use. The industrial ownership spans most of the shoreline and allows some bank fishing access for area residents.

4.7.4 ENVIRONMENTAL EFFECTS

Georgia Power proposes to surrender the license and remove the dam. The powerhouse will remain and may be sold or transferred to the state, city, or other regulatory entity.

Recreation facilities will be removed or maintained by Georgia Power or sold/leased to another entity, such as the City of Valley.

Aesthetics would change from a low-head dam that stretches across the Chattahoochee River and associated small impoundment to a free-flowing riverine stretch of the river. Short-term visual effects of the dam removal would include exposed impoundment beds along the river embankments until vegetation naturally re-establishes along the new high-water line of the riverine embankments. The water dropping over the dam will be replaced by water cascading through various shoals in the river and creating a riverine scenic vista. This change from impounded to free flowing will improve aesthetics in the area and will provide a unique recreational opportunity to provide whitewater in a completely natural setting as opposed to the engineered urban whitewater course located in Columbus, Georgia.

4.7.5 CUMULATIVE EFFECTS

Removing the Langdale and Riverview Dams would have a direct, long-term beneficial effect on recreation and aesthetics by providing additional river miles of paddling opportunities for kayakers and canoeists, eliminating the need for multiple portages around Langdale, Crow Hop and Riverview Dams. Removal would support the overall Chattahoochee Blueway Project and contribute to additional paddling resources on the highly regulated Chattahoochee River.

4.7.6 PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING

Georgia Power is not proposing to conduct any recreation, land use, or aesthetics studies related to the license surrender and decommissioning.

4.7.7 REFERENCES

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4.8 SOCIOECONOMIC RESOURCES

4.8.1 AFFECTED ENVIRONMENT

The Langdale Project is located on the Chattahoochee River in Chambers County, Alabama and Harris County, Georgia and straddles the border of Alabama and Georgia. Chambers County is about 596.53 square miles and Harris County is about 463.87 square miles (U.S. Census Bureau 2016b, U.S. Census Bureau 2016d).

The population of Chambers County was about 33,843 at the July 1, 2016 census, representing a 1.0 percent decrease from the April 1, 2010 census (U.S. Census Bureau 2016b). The population of Harris County was about 33,652 at the July 1, 2016 census, representing a 5.1 percent increase from the April 1, 2010 census (U.S. Census Bureau 2016d).

The 2012-2016 estimated median household income for Chambers County was \$36,027 (in 2016 dollars), and for Harris County was \$65,336 (in 2016 dollars). The poverty rate was 19.9 percent in Chambers County, compared to 17.1 percent in Alabama. The poverty rate was 8.7 percent in Harris County, compared to 16.0 percent in Georgia (U.S. Census Bureau 2016a, U.S. Census Bureau 2016c). The percentage of high school graduates for 2012-2016 was 80.3 percent for Chambers County and 89.8 percent for Harris County (U.S. Census Bureau 2016b) (U.S. Census Bureau 2016d). The largest industries in both Chambers County and Harris County are manufacturing, retail trade, and healthcare and social assistance (DATA USA 2016a) (DATA USA 2016b).

Four towns and cities near the Project were reviewed for socioeconomic data, including the towns of Valley and Riverview, Alabama, the City of Lanett, Alabama, and the City of Hamilton, Georgia. Each was evaluated for population, household income, poverty, and high school graduation rates.

The town of Riverview had the smallest population at 152 and the town of Valley had the highest population at 9,439 individuals; however, Riverview had the highest population growth from 2015-2016 (10.1 percent). Lanett had the lowest documented household income at \$27,297, whereas Hamilton had the highest documented household income at \$44,750. Valley and Riverview had similar household incomes at \$39,387 and \$37,292, respectively. The poverty rate for Lanett was the highest of the four towns reviewed and Riverview has the lowest poverty rate. Although there was not complete information on all sites' high school graduates, Lanett had a 79.0 percent high school graduation rate, which is 1.3 percent below Chambers County at 80.3 percent (DATAUSA 2016c, 2016d, 2016e, 2016f and U.S. Census Bureau 2016e).

Population statistics can be found in *Table 4-11* for the four towns/cities and two counties.

**TABLE 4-11 POPULATION STATISTICS FOR ALABAMA AND GEORGIA
TOWNS AND COUNTIES**

	VALLEY AL	LANETT AL	RIVERVIEW AL	HAMILTON GA	CHAMBERS COUNTY AL	HARRIS COUNTY, GA
Population	9,439	6,393	152	1,092	33,843	33,652
Population increase/ decrease (from 2015-2016)	-0.05%	-0.05%	10.1%	7.8%	-0.18%	0.66%
Median Household Income	\$39,387	\$27,297	\$37,292	\$44,750	\$36,027	\$65,336
Poverty Rate	15.7%	29.0%	13.2%	15.4%	19.9%	8.7%
High School Graduates	-	79.0%	-	-	80.3%	89.8%

Source: DATAUSA 2016a, 2016b, 2016c, 2016d, 2016e, 2016f and U.S. Census Bureau 2016e.

Table 4-12 provides data on employment sources in the towns and cities of Valley, Riverview, and Lanett, Alabama, and Hamilton, Georgia, as well as Chambers County, Alabama and Harris County, Georgia. As stated previously, the largest industries in both Chambers County and Harris County are manufacturing, retail trade, and healthcare and social assistance (DATA USA 2016a) (DATA USA 2016b).

The largest industries for the four towns and cities are manufacturing, retail trade, healthcare and social assistance, and transportation and warehousing (DATAUSA 2016c, 2016d, 2016e, 2016f and U.S. Census Bureau 2016e).

**TABLE 4-12 EMPLOYMENT STATISTICS FOR ALABAMA AND GEORGIA
TOWNS AND COUNTIES**

	VALLEY AL	LANETT AL	RIVERVIEW AL	HAMILTON GA	CHAMBERS COUNTY AL	HARRIS COUNTY GA
Manufacturing	23.4%	30.5%	2.1%	9.9%	27.1%	12.4%
Retail Trade	12.3%	12.5%	25.5%	11.8%	12.4%	10.1%
Healthcare and Social Assistance	9.9%	8.8%	10.6%	14.5%	10.9%	11.2%
Education Services	8.8%	5.4%	2.1%	8%	7.1%	8.4%
Construction	3.4%	2%	17%	-	4.6%	7.6%
Transportation and Warehousing	1.8%	3.3%	14.9%	11.5%	2.4%	5.1%
Administration Support	4%	3%	8.5%	4%	3.5%	6%

Source: DATAUSA 2016a, 2016b, 2016c, 2016d, 2016e, and 2016f.

4.8.2 ENVIRONMENTAL EFFECTS

Georgia Power’s proposal to surrender the Project license and decommission the dam and facilities is not expected to have an impact on socioeconomic resources near the Project, since the Project has not been in operation for the past seven years. During the dam removal, additional workers may temporarily inhabit the area, producing a short-term uptick in business for the local restaurant, fuel, and hotel industries.

4.8.3 PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING

Georgia Power is not proposing to conduct any socioeconomic studies related to the license surrender and decommissioning.

4.8.4 REFERENCES

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4.9 CULTURAL AND TRIBAL RESOURCES

4.9.1 AFFECTED ENVIRONMENT

4.9.1.1 PREHISTORICAL CULTURAL RESOURCES

The Project Area was used for thousands of years before European settlers arrived. The prehistoric and historic background in Georgia and Alabama is divided among several stages, or periods. The primary periods are (a) Paleo-Indian (10,000 to 8,000 B.C.), (b) Archaic (8,000 to 1,000 B.C.), (c) Woodland (1,000 B.C. to 900 A.D.), and (d) Mississippian (900 to 1500 A.D.). The Paleo-Indian Period people were early hunters and gathers. The groups followed a hunting and gathering subsistence pattern with low population density and a social structure that consisted of small, mobile groups. During the Archaic Period regional territories developed and there was a shift in using cultivated plants and hunting smaller prey (such as, deer, turkey). The Woodland Period was characterized by agricultural communities and the development of pottery. During the Mississippian Period ceremonial mounds, villages, and trade networks were developed. Georgia Power conducted several cultural resources surveys of the Project Areas. Cultural resource inventory and evaluation of the Project Area resulted in the discovery and delineation of several cultural properties. In addition, these surveys showed that little probability exists for the recovery of Paleo-Indian cultural materials within the Project boundary. The probability of discovering Archaic properties on terrace/flood plain areas or riverine upland sections along the Chattahoochee River increases from Early to Late periods and may be positively influenced by the existence of river shoals. A relatively high probability exists for the discovery of Early to Middle Woodland and Mississippian properties on upper terrace, slope and adjacent upland segments of the Project tracts, while the potential for the existence of Late Woodland properties is uncertain (Gardner et al. 1988). The results of the surveys are discussed in more detail in Section 4.9.1.3.

4.9.1.2 HISTORICAL CULTURAL RESOURCES

The cultural resources surveys of the Project Area showed that the potential for occurrence of early Euro-Afro-American properties on Project tracts has probably been negatively affected by recent (post-1900) industrial development. While early domestic (small farmsteads) and early industrial (grist and saw mills, dams) activities are documented for the Project Vicinity, the probability for their disturbance or destruction by later industrial activities related specifically to West Point Mills is high, thus lessening the potential for discovery of these properties. The results of the surveys are discussed in more detail in Section 4.9.1.3.

4.9.1.3 HISTORY OF PROJECT RESOURCES

The Langdale facility is the earliest small hydroelectric project constructed in Georgia, and the fourth oldest project in the state. Nine hydroelectric projects were constructed between 1902 and 1914, during the earliest phase of hydroelectric development in Georgia. Seven are large projects, having generating capacities of 14.4 to 177 megawatts (MW); two are small projects, with the Langdale Project having a generation capacity of 2.95 MW during initial operation,

and the Bartlett Shoals Project with a capacity of 2.8 MW. The New Bridge Project constructed in 1904, is no longer in operation (FERC 1993).

The Langdale powerhouse was constructed in 1907-1908 at the site of an existing dam built in 1873. The dam was rebuilt in 1908. The powerhouse and new dam were constructed to power West Point Manufacturing Company's (WPMC) Shawmut Mill, also built in 1907-1908. Shawmut Mill was constructed specifically to be powered by electricity from the Project, and was one of the first textile factories in the Chattahoochee Valley designed to be wholly powered by electricity. It was also the first wholly electrically powered textile mill constructed and operated by the WPMC.

The Langdale facility embodies many characteristics of hydroelectric project design typical of the 1895-1915 period in the United States. The powerhouse interior, however, does not retain historical integrity. Two generating units were added in 1924-1926 and the original equipment was removed in 1953. The WPMC sold the Langdale Project (and Riverview Project) to Georgia Power in 1930 (FERC 1993).

Georgia Power conducted cultural resources surveys of the Project Areas (Gardner Brockington 1988; Gardner et al. 1988; Hay 1989). The surveys identified the Project dam and powerhouse and one archeological site at the Project as eligible for inclusion on the National Register of Historic Places (NRHP). It has been determined that the powerhouse and dam are eligible for the NRHP at the State Level under Criterion A, as a "property associated with events that have made a significant contribution to the broad patterns of our history," and Criterion C, as a property which embodies the distinctive characteristics of a type, period or method of construction. (National Register Bulletin 16, September 30, 1986). The archeological site, described in the cultural resources survey as IP#7, is located within Tract 2 at the Project. Tract 2 parallels a small tributary of the Chattahoochee River and is located on a moderately sloping ridge overlooking the water. This site is representative of the Late Mississippian period, Bull Creek phase of the Lamar culture and has substantial undisturbed cultural deposits. Late Mississippian sites are not common in this area along the Chattahoochee River; the site should contain significant information about the prehistory of the area.

Based on the results of limited field investigations, IP#7 is recommended eligible for the National Register of Historic Places under Criterion C at the local level of significance. Under Criterion C the resource is thought to embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or that represent a significant and distinguishable entity 'whose components may lack individual distinction.

Georgia Power currently implements a Cultural Resources Management Plan (CRMP) for the Project which provides for:

- Monitoring the dams and powerhouses and the eligible site for potential or inadvertent impacts from maintenance and repair work and other actions at the Project.

- Additional cultural resources surveys and evaluation of any new or transferred Project lands, lands proposed for land-disturbing activities, and any previously unrecorded sites discovered in the Project Area.
- Consultation with the SHPO concerning necessary cultural resources investigations and avoidance or impact reduction measures.
- Updating the plan.

On April 13, 1993, Georgia Power filed a Programmatic Agreement (PA) to implement the CRMP at the Project. The PA was accepted and signed by the FERC, the Georgia State Historic Preservation Officer (GASHPO) and the Alabama State Historic Preservation Officer (ALSHPO), GPC, and the Advisory Council on Historic Preservation, and executed on May 19, 1993 (Klima, 1993).

4.9.2 ENVIRONMENTAL EFFECTS

The Project has not operated since 2009; therefore, there is no current effect on the Project's dam and powerhouse and the eligible archeological site. Under Georgia Power's proposal to decommission the Project, the Langdale Dam would be removed in its entirety; the powerhouse would remain. This action may have an adverse effect on cultural/historic resources, particularly those that have been found eligible for listing on the National Register as well as those Project features that have not been evaluated for eligibility for listing. Removal of the dam would eliminate the listing and remove the visual aspect of this historical facility.

Georgia Power met with the GASHPO and ALSHPO on April 26, 2018. Georgia Power explained plans to remove the Langdale, Crow Hop, and Riverview dams and the Riverview powerhouse. The Langdale Powerhouse will remain intact. Georgia Power, the GASHPO, and ALSHPO discussed leaving abutments, final disposition of the powerhouses, and preservation easements. Georgia Power will continue to work in consultation with the GASHPO and ALSHPO to determine any mitigation measures necessary (including consultation, documentation, and protective covenants) for any possible impacts to historic properties.

4.9.3 PROPOSED STUDIES FOR LICENSE SURRENDER AND DAM DECOMMISSIONING

Georgia Power proposes to consult with the GASHPO and ALSHPO to determine the need for additional information on the Project facilities (dam, powerhouse, and appurtenant facilities) prior to dam removal.

4.9.4 REFERENCES

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APPENDIX A
DRAFT DECOMMISSIONING PLAN OUTLINE

LANGDALE AND RIVERVIEW PROJECTS

(FERC No. 2341 and FERC No. 2350)

DRAFT OUTLINE FOR DAM DECOMMISSIONING PLAN

Prepared by:



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Atlanta, Georgia

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December 2018

LANGDALE AND RIVERVIEW PROJECTS
(FERC No. 2341 and FERC No. 2350)

DRAFT OUTLINE FOR DAM DECOMMISSIONING PLAN

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December 2018

**LANGDALE AND RIVERVIEW PROJECTS
(FERC No. 2341 and FERC No. 2350)**

DRAFT OUTLINE FOR DAM DECOMMISSIONING PLAN

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF PHOTOS

APPENDICES

APPENDIX A

APPENDIX B

OR

ATTACHMENTS

ATTACHMENT A

ATTACHMENT B

LANGDALE AND RIVERVIEW PROJECTS
(FERC No. 2341 and FERC No. 2350)

DRAFT OUTLINE FOR DAM DECOMMISSIONING PLAN

1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION (INSERT FROM EXHIBIT A)

1.1.1 BACKGROUND (EXHIBIT A)

1.2 PROJECT REMOVAL DESCRIPTION (EXHIBIT A AND ENGINEERING DRAWINGS)

1.3 OVERVIEW OF PROJECT FEATURES (INCLUDE LOCATION MAP)

**1.4 EXISTING PROJECT OPERATIONS DESCRIPTION (INCLUDE RIVER BASIN MAP)
(EXHIBIT A)**

1.5 LAND OWNERSHIP (EXHIBIT E)

**1.6 REGULATORY AND COMPLIANCE REQUIREMENTS (DEVELOP WITH OTHER FEDERAL,
STATE AND LOCAL AGENCIES/ENTITIES)**

2.0 DECOMMISSIONING PLAN

2.1 PROJECT REMOVAL DESIGN REPORT

2.2 CONSTRUCTION-RELATED PLANS

2.2.1 NOISE AND VIBRATION CONTROL PLAN

2.2.2 TRAFFIC MANAGEMENT PLAN

2.2.3 EROSION AND SEDIMENT CONTROL PLAN

2.2.4 STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

2.2.5 SHORELINE ASSESSMENT, STABILIZATION AND MANAGEMENT PLAN

2.2.6 DUST CONTROL PLAN

2.2.7 QUALITY CONTROL AND INSPECTION PLAN

2.2.8 EMERGENCY RESPONSE PLAN

2.2.9 SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN

2.2.9.1 HEALTH AND SAFETY PLAN

2.2.9.2 HAZARDOUS MATERIAL MANAGEMENT PLAN

2.2.9.3 CULTURAL RESOURCES MANAGEMENT PLAN (OR HISTORIC PROPERTIES MANAGEMENT PLAN) – AMEND EXISTING PLAN FOR DECOMMISSIONING

2.2.9.4 RECREATION FACILITY REMOVAL AND IMPROVEMENTS PLAN

2.2.9.5 RESERVOIR VEGETATION, NOXIOUS WEED CONTROL AND SITE RESTORATION PLAN

3.0 DETAILS OF PROJECT REMOVAL METHODOLOGY AND SCHEDULE

3.1 PRE-REMOVAL STUDIES DESCRIPTION

3.2 OVERVIEW OF PROJECT REMOVAL ACTIVITIES

3.3 SCHEDULES

3.4 MONITORING OF CONSTRUCTION IMPACTS

3.5 OVERVIEW OF PERMITTING PROCESS NEEDS AND STATUS

3.5.1 CLEAN WATER ACT

3.5.2 ENDANGERED SPECIES ACT

3.5.3 MAGNUSON-STEVENSON ACT

3.5.4 FEDERAL POWER ACT

3.5.5 FEDERAL WILDLIFE COORDINATION ACT

3.5.6 CLEAN AIR ACT

3.5.7 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)¹

3.5.8 SECTION 404 REMOVE/FILL PERMITS

3.5.8.1 NATIONAL HISTORIC PRESERVATION ACT

3.5.8.2 STATE REGULATIONS

3.5.8.3 LOCAL REGULATIONS

4.0 POST REMOVAL

4.1 POST REMOVAL ACTIVITIES

4.1.1 SITE RESTORATION AND MONITORING

4.1.2 BANK STABILITY RESTORATION AND MONITORING

4.1.3 NOXIOUS WEEDS MONITORING

4.1.4 POST-REMOVAL MONITORING AND CONTINGENCIES

5.0 TOTAL COST FOR REMOVAL OF PROJECTS(S)

APPENDICES OR ATTACHMENTS

APPENDIX B
CONSULTATION SUMMARY

Federal Resource Agencies

U.S. Army Corps of Engineers

On May 17, 2018, Georgia Power held a conference call with the U. S. Army Corps of Engineers (USACE). The purpose of the meeting was to inform the USACE of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about the USACE's interests and resource management goals relative to surrender and dam removal.

The introduction included general project descriptions, physical features, and a briefing about plans for the surrender of Langdale and Riverview. An overview of the Langdale and Riverview run of river hydro operations and proximity to USACE's West Point dam was provided. Reference was made to the inclusion of Langdale and Riverview in the USACE's recent Water Control Manual update for the ACF Basin. Discussion included Georgia Power's proposal to remove the dams and restore aquatic habitat and riverine reaches in this section of the Chattahoochee River by removing project dams.

Protection of cultural resources and streambank restoration were discussed. The timeline for modeling of different dam removal scenarios, and Georgia Power's filing of surrender applications and decommissioning plans was discussed, as well as the timeline for the FERC surrender process. Georgia Power provided an overview of the USACE property ownership at the projects. Georgia Power asked for the USACE assistance in identifying any other appropriate USACE contacts for our stakeholder mailing list.

U.S. Fish and Wildlife Service

On January 9, 2018, Georgia Power met with the U. S. Fish and Wildlife Service (USFWS). The purpose of the meeting was to inform USFWS of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about USFWS's interests and resource management goals relative to surrender and dam removal.

Discussion topics included general project descriptions, physical features, hydro operations, and license surrender plans for Langdale and Riverview. Potential conservation objectives for any jurisdictional protected species, FERC process, and timelines were also discussed.

State Resource Agencies

Alabama Department of Conservation and Natural Resources

On May 3, 2018, Georgia Power held a conference call with the Alabama Department of Conservation and Natural Resources (ADCNR). The purpose of the meeting was to inform ADCNR of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about ADCNR's interests and resource management goals relative to surrender and dam removal. Georgia Power stated that the schedule for a FERC license surrender is less defined when compared to FERC's relicensing process.

Discussion topics included Georgia Power's interest in this project as a restoration project with an overall goal of restoring Shoal Bass habitat. ADCNR stated that its main interest would be to ensure that public access is preserved for the future. Georgia Power stated that its intention would be to preserve existing City of Valley access points, but that the newly created Blueway access for portage may change if dams are removed. Georgia Power mentioned the other agencies and municipalities that will also be engaged stakeholders in this process.

ADCNR meeting attendees expressed a desire to remain engaged and excitement about the dam removals. Georgia Power welcomed their input on partnership discussions that will continue to develop.

Alabama Department of Environmental Management

On November 15, 2018, Georgia Power met with the Alabama Department of Environmental Management (ADEM). The purpose of the meeting was to inform ADEM of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about ADEM's interests and resource management goals relative to surrender and dam removal. Georgia Power stated that the schedule for a FERC license surrender is less defined when compared to FERC's relicensing process.

Discussion topics included Georgia Power's intent to surrender the FERC licenses with an objective of restoring riverine habitat and removing the dam barrier for Shoal Bass migration, among other reasons. Georgia Power's initial step is to conduct hydraulic modeling of different dam removal scenarios. Once the modeling is completed, Georgia Power will present the results to interested stakeholders and discuss with more clarity how the surrounding environment will be affected.

ADEM's primary concern is how this action might impact water quality. As such, ADEM is interested in knowing the baseline water quality condition and in remaining involved in the proceeding as a stakeholder. We discussed other agencies that have been consulted and overall general positive response. We also discussed impacts that are anticipated at this time and how we might propose to address those impacts. Current river access points were also discussed.

Alabama Historical Commission

On March 30, 2018, Georgia Power met with the Alabama Historical Commission (AHC). The purpose of the meeting was to inform the AHC of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about the AHC's interests and resource management goals relative to surrender and dam removal.

Discussion topics included general project descriptions, physical features, hydro operations, a briefing about surrender plans, and the schedule for a FERC surrender as compared to relicensing. A review of the results of past cultural resource studies and the development of the Cultural Resources Management Plan (CRMP), which includes five archaeological sites

located on project lands in Alabama, all of which were ineligible for listing in the NRHP. The resources that are the basis of the CRMP are one archaeological site in Georgia and the dams and powerhouses. Georgia Power discussed the potential size of the breach for the dams and the possibility of leaving dam abutments. There was additional discussion on the final disposition of both powerhouses and all concurred that a protective covenant or preservation easement may be a good method to protect the buildings in the event that they are conveyed to another party.

Georgia Power indicated that this was just the beginning of the consultation process and that details of any proposed mitigation would be developed over the course of the surrender and formalized in a Memorandum of Agreement. Georgia Power provided a follow up letter to the AHC and HPD which summarized the meeting and specifically discussed two additional archaeological resources on the east bank of the river near Langdale and Riverview.

Georgia Department of Natural Resources Environmental Protection Division

On August 15, 2018, Georgia Power met with the Georgia Department of Natural Resources Environmental Protection Division (GAEPD). The purpose of the meeting was to inform EPD of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about GAEPD's interests and resource management goals relative to surrender and dam removal.

Georgia Power reviewed the Project Vicinity, downstream and upstream dams, and a brief history of the dams. Georgia Power stated that the schedule for a FERC license surrender is less defined when compared to FERC's relicensing process, and that as an initial step, Georgia Power will conduct a hydraulic model. Georgia Power indicated that it is considering partnership with environmental resource agencies for the surrenders with a goal of developing a partnership Memorandum of Understanding with one or more of the agencies. The GAEPD expressed an interest in staying informed about the surrenders.

Georgia Department of Natural Resources Historic Preservation Division

On March 23, 2018, Georgia Power met with the Georgia Department of Natural Resources Historic Preservation Division (HPD). The purpose of the meeting was to inform HPD of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about HPD's interests and resource management goals relative to surrender and dam removal.

Discussion topics included general project descriptions, physical features, hydro operations, and a briefing about surrender plans for Langdale and Riverview. HPD explained transferring a historic property out of federal jurisdiction is an adverse effect. The possibility of leaving abutments on one or both river banks and the final disposition of both powerhouses discussed. Georgia Power and HPD concurred that a protective covenant or preservation easement may be a good method to protect the buildings in the event that they are conveyed to another party. With regard to two archaeological resources in the Project Vicinity that are under Georgia Power ownership, Georgia Power and HPD discussed the possibility of using a protective covenant or preservation easement as a form of mitigation should the property be conveyed to another party. In addition, Georgia Power has been monitoring one site that

contains prehistoric artifact scatter that was recommended not eligible for the National Register of Historic Places (NRPH). Parties discussed potentially doing some additional investigation to determine whether the site warranted any further consideration. Georgia Power provided a follow up letter to the AHC and HPD which summarized the meeting and specifically discussed two additional archaeological resources on the east bank of the river near Langdale and Riverview.

Georgia Department of Natural Resources Wildlife Resources Division

On January 24, 2018, Georgia Power met with the Georgia Department of Natural Resources Wildlife Resources Division (WRD). The purpose of the meeting was to inform WRD of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about WRD's interests and resource management goals relative to surrender and dam removal.

Discussion topics included general project descriptions, physical features, hydro operations and a briefing about surrender plans for Langdale and Riverview. Potential conservation objectives for any jurisdictional protected species, FERC process, and timelines were also discussed.

Municipalities

Chambers County

On November 29, 2018, Georgia Power met with Chambers County, Alabama. The purpose of the meeting was to inform Chambers County of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about Chambers County's interests relative to surrender and dam removal.

Georgia Power gave an overview of the history of the Langdale and Riverview Projects, including their original purpose and current condition.

Georgia Power stated that upcoming activities will include a hydraulic modeling study to determine the elevation in the Chattahoochee River in different dam removal scenarios. Once modeling is completed, FERC will evaluate the impacts of the proposed action with public input before issuing a decision on Georgia Power's proposal. Georgia Power anticipates the public process to begin after results of water modeling are available for review, no earlier than late spring 2019.

Georgia Power's goal in removing the dams is to restore this reach of the Chattahoochee River to a natural riverine condition and enhance Shoal Bass habitat. Georgia Power welcomes and appreciates input from Chambers County and other stakeholders in the FERC process.

Chambers County expressed interest in Georgia Power representatives attending a county commission meeting to provide an overview of the modeling results, when they become available. Modeling results are anticipated in spring – summer 2019.

City of Valley

On March 21, 2018, Georgia Power met with City of Valley, Alabama. The purpose of the meeting was to inform the City of Valley of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects. Discussion included Georgia Power's plans to remove the dams and restore aquatic habitat and riverine reaches in this section of the Chattahoochee River by removing project dams. The timeline for filing a surrender application was discussed. Georgia Power solicited the City of Valley's initial response to the proposal, the potential for partnership, how the City of Valley would be impacted, and whether the City of Valley is interested in remaining involved. The City of Valley indicated that the overall goal of this project is consistent with their plans to develop a riverside park adjacent to Langdale Dam.

The City of Valley made several comments on Georgia Power's proposal, including the following:

- The discharge pipe for one of the treatment facilities owned by East Alabama Water and Sewer may be impacted and City of Valley provided a contact name for Georgia Power to use for consultation purposes.
- The boat ramp near the Shawmut (Valley) Airport may be impacted by the dam removal.
- There may be interest in keeping the downstream channel of Langdale Dam wetted.

Harris County, Georgia

On November 8, 2018, Georgia Power met with Harris County, Georgia. The purpose of the meeting was to inform Harris County of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about Harris County's interests relative to surrender and dam removal.

Discussion topics included an overview of the history of the Langdale and Riverview Projects, including their original purpose and current condition. Georgia Power explained that FERC's application review process would provide opportunities for public participation.

County representatives provided preliminary comments on the dam removal proposal. They indicated that Georgia Power's proposal would not impact county assets. They also indicated that opportunities to provide formal recreation on the Harris County side of the Chattahoochee River in the Project Vicinity was not a consideration due to its remote location and limited access. The County Manager expressed interest in participating in the process and will disseminate information to representatives of Harris County government as necessary. Georgia Power will add Mr. Dowling, County Manager, to the stakeholder mailing list.

Non-Governmental Organizations

East Alabama Water, Sewer and Fire Protection Division

On May 14, 2018, Georgia Power met with the East Alabama Water, Sewer and Fire Protection Division (EAWSFPD). The purpose of the meeting was to inform EAWSFPD of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove

the dams associated with the Projects, and to learn more about EAWSFPD's interests and asset management goals relative to surrender and dam removal.

Discussion included Georgia Power's plans to remove the dams and restore aquatic habitat and riverine reaches in this section of the Chattahoochee River by removing project dams. Protection of cultural resources and streambank restoration were also discussed. The timeline for filing a surrender application was discussed. Georgia Power solicited comments on the EAWSFPD's initial response to the proposed action and details of how its infrastructure would be impacted.

EAWSFPD owns and operates a water treatment plant in Alabama just upstream of Riverview Dam. The plant discharges treated water near the southeastern corner of the property. This location would likely be impacted by a dam removal. Georgia Power stated potential removal activities would not change total river flow volume, but it may change flow volume in the powerhouse channel and the water levels are expected to be different post-dam removal.

EAWSFPD listed the water supply intakes and water treatment discharges that are located along the Chattahoochee River between Riverview and West Point as follows from north to south (first four sites are located upstream of I-85):

1. West Point Intake
2. Chattahoochee Valley Intake
3. Lanett Discharge
4. West Point Discharge
5. East Alabama Discharge

EAWSFPD shared that the Chattahoochee Valley Water Supply District is a co-op organization that supplies water to three shareholders; Hugley, Lannett and Valley. Chattahoochee Valley is currently working on an asset inventory and assessment that will inform improvements that will need to be made in the future and their assessment completion date is scheduled for winter 2018/2019. The results of the dam removal modeling will impact EAWSFPD's assessment. EAWSFPD plans to brief the Chattahoochee Valley board on the discussion of this meeting.

EAWSFPD shared that the Langdale Mill had a raw water intake upstream of the Langdale Powerhouse and a discharge downstream of the Langdale Powerhouse in the canal, both of which have been abandoned.

Three known lift stations are located in Alabama adjacent to the Chattahoochee River; Langdale Lift Station, Riverview Lift Station, Riverview Total Lift Station. The sewage is pumped along the riverbank north of I-85.

Lake Harding Home Owners Association

On March 7, 2018, Georgia Power met with the Lake Harding Home Owners Association (LHA). Lake Harding is impounded by the downstream Bartletts Ferry Dam (FERC Project

No 485) with an upstream reach to the base of Crow Hop Dam. The purpose of the meeting was to inform LHA of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about LHA's interests relative to surrender and dam removal.

LHA indicated that it was open to dam removal and saw benefits of extending the reach via boat from Lake Harding without being impeded by the dams. They expressed an interest in sedimentation and/or change of flows into Lake Harding. Georgia Power explained that flows into Lake Harding likely would not be impacted. The results of Georgia Power's hydraulic modeling will provide additional information about any flow impacts from dam removal.

Trust for Public Land

On May 10, 2018, Georgia Power held a conference call with the Trust for Public Land (TPL). The purpose of the call was to inform TPL of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about TPL's interests relative to surrender and dam removal.

Discussion included Georgia Power's intended focus on restoring aquatic habitat and riverine reaches in this section of the Chattahoochee River. The timeline for filing a surrender application was discussed. TPL indicated that the details of the decommissioning and associated studies are of interest to TPL as it is a contributing partner in the development of the Chattahoochee Valley Blueway. TPL is currently working on a master plan between Buford Dam and Chattahoochee Bend, north of West Point Lake. TPL discussed conceptual ideas for the future of the area without the Langdale and Riverview dams and is interested in being a stakeholder in the surrender proceeding.

Chattahoochee River Conservancy

On March 21, 2018, Georgia Power held a conference call with the Chattahoochee River Conservancy. The purpose of the call was to inform Chattahoochee River Conservancy of Georgia Power's intent to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects, and to learn more about Chattahoochee River Conservancy's interests relative to surrender and dam removal.

Discussion included Georgia Power's focus on restoring aquatic habitat and riverine reaches in this section of the Chattahoochee River. The timeline for filing a surrender application was discussed.

Chattahoochee River Conservancy indicated support for surrender and dam removal and is interested in being listed as a stakeholder. Chattahoochee River Conservancy offered to partner with Georgia Power on community outreach among the local communities and the paddling and kayaking communities.

Adjacent Property Owners

On August 16, 2018, Georgia Power mailed postcards to owners of property adjacent to the Langdale and Riverview Projects providing notification of upcoming bathymetric survey

activities that would occur in the area. Georgia Power was subsequently contacted by telephone by four property owners. During the telephone calls, Georgia Power shared its plans to surrender the Langdale and Riverview Project licenses and remove the dams associated with the Projects. One adjacent property owner indicated that he believes dam removal would negatively impact the fisheries between Riverview and Langdale Dams. One adjacent property owner indicated that removal of the dams may reduce the number of trespassers that visit his property. All four adjacent property owners indicated interest in remaining informed of the FERC process.

April 26, 2018

Ms. Amanda McBride
Alabama Historical Commission
486 South Perry Street
P.O. Box 300900
Montgomery, AL 36130-0900

Re: Summary of our March 30, 2018 meeting regarding the Langdale (#2341) and Riverview (#2350) Hydroelectric Projects

Dear Ms. McBride:

Thank you again for meeting with us to discuss our plans for the Langdale and Riverview projects, attended by you, Will Lowe, Courtenay O'Mara, and myself. Per our discussion, I wanted to summarize the key points of our conversation for the record. As we explained, our plan is to surrender our licenses for these projects and breach Langdale dam and Crowhop dam to restore riverine conditions and enhance recreation and habitat. We began by discussing the surrender process as compared to the relicensing process. We then reviewed the results of cultural resource studies and the development of the Cultural Resources Management Plan (CRMP) during the last relicensing.

There were five archaeological sites located on project lands in Alabama, all of which were ineligible for listing in the National Register of Historic Places (NRHP). One archaeological site (9HS30), as well as the dams and powerhouses were identified in Georgia and determined eligible for the NRHP. These resources form the basis of the CRMP. We discussed the size of the breach for the dams and the possibility of leaving abutments on one or both banks. We also discussed the final disposition of both powerhouses and all concurred that a protective covenant or preservation easement would be a good method to protect the buildings in the event that they are conveyed to another party.

Finally, we acknowledged that this was just the beginning of the consultation process and that details of any proposed mitigation would be developed over the course of the surrender and formalized in a Memorandum of Agreement. We request that your office review this summary for accuracy and respond so that our initial discussion can be entered into our records. If you have any questions or require any further information, please contact me at 404-506-2337 or jcharles@southernco.com.

Sincerely,



Joseph Charles
Hydro Compliance Coordinator, Environmental & Natural Resources

April 26, 2018

Ms. Stacy Rieke
DNR Historic Preservation Division
Jewett Center for Historic Preservation
2610 GA Hwy 155, SW
Stockbridge, GA 30281

Re: Summary of our March 23, 2018 meeting regarding the Langdale (#2341) and Riverview (#2350) Hydroelectric Projects

Dear Ms. Rieke:

Thank you again for meeting with us to discuss our plans for the Langdale and Riverview projects, attended by you, Meg Pagán, and Debbie Wallsmith (HPD), Courtenay O'Mara and Melissa Crabbe (Southern Company Generation), and myself. Per our discussion, I wanted to summarize the key points of our conversation for the record. As we explained, our plan is to surrender our licenses for these projects and breach Langdale dam and Crowhop dam to restore riverine conditions and enhance recreation and habitat. You expressed that transferring a historic property out of federal jurisdiction was, in itself, an adverse effect. Using the surrender and breach of City Mills and Eagle & Phenix dams downstream as an example, we discussed the possibility of leaving abutments on one or both banks and the final disposition of both powerhouses. We all concurred that a protective covenant or preservation easement would be a good method to protect the buildings in the event that they are conveyed to another party.

I also discussed two archaeological resources on the east bank of the river near Langdale and Crowhop dams. Site 9HS30 is a multi-component habitation site with primarily Late Mississippian and Historic Creek occupations. The site was recommended eligible for the NRHP and is currently part of our site monitoring plan. Site 9HS31 is a prehistoric artifact scatter that was recommended not eligible for the NRHP. Although your office concurred with that recommendation and the site was not included in the Cultural Resources Management Plan, it has been monitored throughout the term of the license. We discussed potentially doing some additional investigation to determine whether the site warranted any further consideration. As with the buildings, we concurred that a protective covenant or preservation easement was also a potential form of mitigation should 9HS30 be conveyed to another party.

Finally, we acknowledged that this was just the beginning of the consultation process and that details of any proposed mitigation would be developed over the course of the surrender and formalized in a Memorandum of Agreement. We request that your office review this summary for accuracy and respond so that our initial discussion can be entered into our records. If you have any questions or require any further information, please contact me at 404-506-2337 or jcharles@southernco.com.

Sincerely,



Joseph Charles
Hydro Compliance Coordinator
Georgia Power, Land Department