

Freshwater Mussel Survey Report

Langdale (FERC No. 2341) and Riverview (FERC No. 2350) Hydroelectric Projects

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I. AQUATIC SURVEY OVERVIEW

A. Executive Summary

Georgia Power Company (Georgia Power) has conducted a mussel survey in support of the license surrender and decommissioning of the Langdale Project (FERC No. 2341) and the Riverview Project (FERC No. 2350) (the Projects). Georgia Power filed the Proposed Study Plan (PSP) for the mussel survey with the Federal Energy Regulatory Commission (FERC or Commission) on May 24, 2019, and provided a 30-day public and agency review and comment period. Following the comment period, a Final Study Plan (FSP) was filed on July 24, 2019.

Section 3.0 of the SP stipulates that the mussel survey will be conducted on the Chattahoochee River in the immediate areas downstream of the Projects where localized construction activity is proposed to effectuate dam removal. The freshwater mussel survey was conducted on June 16 – 18, 2020.

No state or federal listed mussels were observed during the survey. A total of 31 mussels were collected and released. All species collected are considered stable throughout their current range.

B. Target Species

The following freshwater mussel species are potentially occurring within the survey area and are considered target species for the survey.

Scientific Name	Common Name	USFWS HUC 10	County IPaC	GNAHRGIS	Protection Status	Suitable Habitat Present?	Target Species of Survey?
<i>Pleurobema pyriforme</i>	oval pigtoe	No	Yes Chambers,AL	No	FT	Yes	Yes
<i>Elliptoideus sloatianus</i>	purple bankclimber	No	Yes Chambers,AL	No	FT	Yes	Yes
<i>Lampsilis altilis</i>	finelined pocketbook	No	Yes Chambers,AL	No	FT	Yes	No
<i>Pleurobema perovatum</i>	ovate clubshell	No	Yes Chambers,AL	No	FE	Yes	No
<i>Medionidus penicillatus</i>	Gulf moccasinshell	No	No	No	FE	Yes	Yes
<i>Elliptio arcata</i>	delicate spike	Yes	No	Yes	SE	Yes	Yes
<i>Alasmidonata triangulata</i>	southern elktoe	No	No	No	SE	Yes	No

Key: Federal Endangered (FE), Federal Threatened (FT), State Endangered (SE)

II. SURVEY BACKGROUND INFORMATION

A. Purpose and Background Information

Georgia Power filed applications for license surrender for the Projects with FERC on December 18, 2018, in accordance with the Commission's regulations at 18 C.F.R. § 6.1 and 6.2. The licenses for the Projects expire on December 31, 2023. On April 11, 2019, FERC issued an additional information request (AIR) regarding decommissioning studies proposed by Georgia Power. On May 24, 2019, Georgia Power filed the Proposed Study Plan (PSP) to provide more information on the studies Georgia Power proposed to conduct to support the license surrender and decommissioning of the Langdale Project (FERC No. 2341) and the Riverview Project (FERC No. 2350) (the Projects) (Figures 1-3). Following a 30-day public and agency review and comment period, Georgia Power filed a Final Study Plan (FSP) on July 24, 2019. The objective of the study as outlined in the FSP was to characterize the existing mussel community in the immediate downstream vicinity of the dams using field surveys to determine if the presence of those communities would be impacted by proposed construction activities.

Langdale Project

The Langdale Project is located on the Chattahoochee River, adjacent to the City of Valley, Alabama (Figure 4). The Langdale Project is located approximately 9.5 river miles (RM) 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 in which the Langdale Project is located.

The Langdale Project was constructed between 1904 and 1908 and purchased by Georgia Power from West Point Manufacturing Company in 1930. The Project operated as a run of river project.

Over time, the four horizontal generating units developed maintenance problems, and eventually were no longer operable or repairable. Generation records suggest that Georgia Power stopped operating the horizontal units in approximately 1954. The horizontal units were officially retired in 1960, leaving two 520 kilowatt (kW) vertical units in the powerhouse that have not operated since 2009.

Riverview Project

The Riverview Project is located on the Chattahoochee River, downstream of the City of Valley, Alabama and in Harris County, Georgia (Figures 5 and 6). The Project is approximately 10.5 RM downstream of the USACE West Point Project and 0.9 RM downstream of the Langdale Project. The Project consists of two separate dams, Riverview Dam (located approximately at RM 190.6) and Crow Hop Dam (located approximately at RM 191.0), and a powerhouse with generating equipment located on the western abutment of Riverview Dam. Crow Hop Dam is the upstream dam and is situated across the main river, diverting flow into a headrace channel between an island and the western bank. The headrace channel is approximately 1-mile long. Riverview Dam and the powerhouse are located at the lower end of this headrace channel (Figure 3). The Project was constructed in several phases. The smaller downstream dam was constructed in 1906 for West Point Manufacturing Company. Originally, the dam diverted water into the adjacent mill building to provide power for mill operation. The existing powerhouse was built in 1918 and houses two 240 kilowatt (kW) generating units. Crow Hop Dam was constructed in 1920. Georgia Power purchased the Riverview Project from West Point Manufacturing Company in 1930 and began operating the two generating units as a run of river project. Over time, the units developed maintenance problems, and eventually were no longer operable or repairable.

B. Survey Methodology

The survey methodology is based on the *Freshwater Mussel Survey Protocol for Transportation Projects within the State of Georgia* (November 2018). This protocol was created by the Georgia Department of Natural Resources (DNR), Georgia Department of Transportation (GDOT), and U.S. Fish and Wildlife Service (USFWS) to establish a standardized mussel survey protocol that could be used across physiographic provinces. This protocol provides precise application of the sampling methods for wadeable and non-wadeable streams and provides a measure of certainty in the presence/absence of state and federally protected freshwater mussel species at a project site.

West Point Dam Operations, at the request of Southern Company Hydro Services and based on precipitation forecast and other system operation considerations, agreed to manage the hydro release schedule at West Point Dam to facilitate low daytime flows to accommodate the mussel survey. Pre-survey planning as coordinated by Georgia Power included agency informal study plan review with USFWS Regional Ecological Services and GDNR's Wildlife Conservation Section. Prior to the initiation of fieldwork, the survey crew coordinated a daily survey plan with Georgia Power for overall safety diligence and awareness of upstream USACE West Point Dam operations for the day. The survey team was equipped with a hand-held communication device and was in constant contact with the field coordinator.

Each survey area, as depicted on the attached Figures 4 through 6, was divided into 50-meter long segments with 25% of the search area located upstream of the proposed project and 75% of the search located downstream of the proposed project. Each of the 50-meter segments was surveyed by a minimum of 4 searchers for a minimum of 2 person-hours (i.e. 4 searchers X 30 minutes = 2 p-hours) to reduce surveyor bias. Each searcher carefully searched all habitats, from bank to bank, using tactile and visual searches within each segment of the survey area. Searchers did not overlap search areas in order to ensure independence of searches. All surveying was conducted from the downstream reach to the upstream reach to minimize potential increases in searcher induced turbidity. All animals collected were retained by the individual searcher that collected them.

The survey began by conducting a visual search to examine dead shells along river shorelines and all exposed areas. The visual search on the bank(s) was conducted in addition to a tactile (hand-grubbing 1-2 inches into substrate to increase detection of more deeply buried mussels) search and visual searches for individuals within the water. For tactile and visual searches within the stream channel, searchers were spaced equidistant across the stream channel and slowly moved upstream in longitudinal transects; if a substantial amount of space existed between them, searchers progressed upstream in a zig-zag pattern to cover a larger area. The following techniques were used during the surveys: 1) for areas less than 1.5 meters in depth, mask and snorkel combined with tactile search were used. If mask and snorkel were not feasible, only tactile searches were used; 2) for areas greater than 1.5 meters in depth, SCUBA diving equipment was used. Two divers conduct the search while being assisted by at least one support person each.

Collected mussels awaiting identification were temporarily held in mesh bags suspended in the stream. Specimens were held for the minimum time necessary in bags that allowed free movement of water over the mussels. All mussels were returned to the point of capture and hand placed with their anterior ends in the substrate and posterior end exposed to the water with siphon facing upstream.

Information relevant to the survey site was collected and recorded on the field data form. Of importance are water quality parameters (water temperature, stream flow, turbidity, pH, conductivity, etc.) and instream features. Locations of suitable habitats will be shown in the sketch map and indicate the level of suitability for the species being surveyed for (marginal, suitable, or preferred).

For the 1.3-mile section between the Langdale and Crow Hop Dams, the river was traversed using a boat to identify potential suitable mussel habitat. When identified, these areas were surveyed using visual and tactile search methodologies outlined above. Rather than detailed transects, identified mussel habitat in this reach of the river was surveyed by a 4-person team utilizing a random, non-overlapping pattern across the suitable habitat.

The sources used to compile a list of protected aquatic species and target species potentially occurring within the survey area were: USFWS Information for Planning and Consultation (IPaC) system species list; the USFWS HUC 10 Watershed list; the Georgia Natural Heritage Program (GNHP) on-line quarter-quadrant list of protected species; previous studies conducted by Georgia Power; on-line information from the Alabama Department of Natural Resources Nongame Wildlife Program; and Georgia's Natural, Archaeological, and Historic Resources GIS (GNAHRGIS) Early Coordination letter dated November 25, 2019 (Appendix II). Based on the information obtained from the above sources, target species were identified and an aquatic survey was conducted to determine the potential presence/absence of the protected species within the survey area and identify areas of high-quality habitat that could be impacted during construction activities. Target species for the survey are highlighted below.

Protected Aquatic Species Potentially Occurring within the Survey Area

Scientific Name	Common Name	USFWS HUC 10	County IPaC	GNAHRGIS	Protection Status	Suitable Habitat Present?	Target Species of Survey?
<i>Pleurobema pyriforme</i>	oval pigtoe	No	Yes Chambers,AL	No	FT	Yes	Yes
<i>Elliptoideus sloatianus</i>	purple bankclimber	No	Yes Chambers,AL	No	FT	Yes	Yes
<i>Lampsilis altilis</i>	finelined pocketbook	No	Yes Chambers,AL	No	FT	Yes	No
<i>Pleurobema perovatum</i>	ovate clubshell	No	Yes Chambers,AL	No	FE	Yes	No
<i>Medionidus penicillatus</i>	gulf moccasinshell	No	No	No	FE	Yes	Yes
<i>Elliptio arctata</i>	delicate spike	Yes	No	Yes	SE	Yes	Yes
<i>Alasmidonata triangulata</i>	southern elktoe	No	No	No	SE	Yes	No

Key: Federal Endangered (FE), Federal Threatened (FT), State Endangered (SE)

C. Study Location

Nearest City or Other Defining Feature	Valley, AL at Chattahoochee River Mile 191.9
County(ies)	Harris County, Georgia and Chambers County, Alabama
Approximate Project Midpoint	32.800742°N 85.153408°W
Level IV Ecoregion	45b Southern Outer Piedmont
HUC 10 Watershed	Chattahoochee River, Lower North 3 (HUC 0313000209)
Nearest Hydrologically-Connected USGS Stream Gage	USGS 02339500 Chattahoochee River at West Point GA

D. Weather Conditions Summary

Dates of Surveys	6/16/20 – 6/18/20
Average Air Temperature	85° F
Weather Conditions	Sunny
Date of Most Recent Precipitation Event	6/10/20
Amount of Most Recent Precipitation Event	1.1”
Cumulative Precipitation since June 1st	≈ 1.50”
Surveyor Name, Affiliation	Dean Wilder, Ecological Solutions, Inc. (ESI)* David Smith, ESI Michael Nugent, ESI Andrew Croy, ESI Connor Breedlove, ESI
Resources Surveyed	Chattahoochee River at Langdale, Crow Hop, and Riverview low water dams

* - Surveyor responsible for verification of species identification

E. Individual Resources Surveyed

Resource Name	Chattahoochee River (above Langdale Dam)
Date(s) surveyed	6/16/20
Time(s) surveyed	8:00 AM to 12:30 PM
Survey method	Mussels - hand grubbing, snorkeling, and SCUBA
Survey length	300 m above Langdale Dam
Water temperature (°C)	23.47
Dissolved oxygen (mg/L)	5.38
pH level	5.36
Conductivity (µS/cm)	0.045
Salinity (ppt)	0.0
Turbidity (NTU)	0.0
Wetted width (range and/or average)	800' to 900' Avg. 850'
Water depth (range and average)	2' to ≈ 15.0' Avg. 8.0'
Stream substrate	Right bank: 80% mixed sand, 15% gravel, 5% clay Left bank: 40% boulder, 20% mixed sand, 20% clay, 10% cobble, 10% silt
Stream geomorphology	straight channel with right side and middle of channel consisting primarily of mixed sands; left side of channel contained more rock/boulder and a deeper channel
Flow rate	low – 675 cubic feet per second (cfs)
Discharge	moderate
Vegetative buffer width	75+ feet each side
Bank/channel condition	incised in places and showing some signs of active erosion
Amount of woody debris	light
Target species surveyed for	oval pigtoe, purple bankclimber, Gulf moccasinshell, and delicate spike

* No target species captured during survey

Chattahoochee River above Langdale Dam

The Chattahoochee River (above Langdale Dam) (Figure 2) provides poor to moderate quality habitat for the seven species (four target species): oval pigtoe, purple bankclimber, finelined pocketbook, ovate clubshell, Gulf moccasinshell, delicate spike, and southern elktoe. The substrate throughout most of the surveyed reach consists primarily of mixed sands with areas of varying mixtures of sand, cobble, and clay. Most of those areas consist of loosely packed sand. On the east side of the river, there is a somewhat more defined channel consisting of more boulders with sand and clay mixed in the interstitial spaces. Water

discharge volume was dropped to 675 cfs at the West Point Lake Dam to aid in the survey. There is a light amount of woody debris, river weeds, and undercut banks scattered throughout the survey area. The water was very clear and had a moderate flow.

Two mussel species: Gulf spike (*Elliptio pullata*) and southern rainbow (*Villosa vibex*), as well as one invasive clam species: Asian clam (*Corbicula fluminea*) were collected during the survey. Three individuals of the Gulf spike and nine individuals of the southern rainbow were collected at the locations within the surveyed area as shown in Figure 7. The Asian clam was observed throughout the surveyed area in quantities too numerous to count (TNTC). No target species were collected during the survey effort.

Representative habitat photographs of Chattahoochee River (above Langdale Dam)



Photograph 1 - Western shoreline, upstream of dam



Photograph 2 - Eastern shoreline, upstream of dam



Photograph 3 - Western shoreline, upstream of dam

Resource Name	Chattahoochee River (below Langdale Dam)
Date(s) surveyed	6/16/20
Time(s) surveyed	12:30 PM to 4:00 PM
Survey method	Mussels - hand grubbing and snorkeling
Survey length	300 m below Langdale Dam 450 m side channel below Langdale Dam
Water temperature (°C)	23.47
Dissolved oxygen (mg/L)	5.38
pH level	5.36
Conductivity (µS/cm)	0.045
Salinity (ppt)	0.0
Turbidity (NTU)	0.0
Wetted width (range and average)	Main channel: 415' to 840' Avg. 500' Side channel: ≈ 75'
Water depth (range and/or average)	Main channel: 1' to ≈ 12.0' Avg. 3' Side channel: 6" to 3' Avg. 1.5'
Stream substrate	Side channel: 90% mixed sands, 10% clay Main channel: 60% bedrock/boulder, 15% cobble, 25% mixed sands
Stream geomorphology	side channel consists primarily of mixed sands and few other features; main channel consists of rock shoals across the width of the river; left side of channel contains a deeper channel while the right side consists of more shallow shoal areas
Flow rate	low – 675 cfs
Discharge	moderate
Vegetative buffer width	75+ feet each side
Bank/channel condition	Incised in places and showing some signs of active erosion
Amount of woody debris	moderate
Target species surveyed for	oval pigtoe, purple bankclimber, Gulf moccasinshell, and delicate spike

* No target species captured during survey

Chattahoochee River below Langdale Dam

The Chattahoochee River (below Langdale Dam) (Figure 2) provides poor to moderate quality habitat for the seven species (four target species): oval pigtoe, purple bankclimber, finelined pocketbook, ovate clubshell, Gulf moccasinshell, delicate spike, and southern elktoe. The substrate throughout the area immediately below the dam consists of primarily a mix of bedrock, boulders, and sands in the interstitial spaces. Most of those areas consist of loosely packed sand. On the east side of the river, there is a somewhat deeper channel consisting of more boulders with sand and clay mixed in the interstitial spaces. The side channel below the powerhouse dam consists of loosely packed sand/silt/and clay. Water discharge volume was dropped to 675 cfs at the West Point Lake Dam to aid in the survey. There is very little woody debris in the main channel while the side channel contains more fallen trees and branches. The water was very clear and had moderate to strong flow in the main channel and very low water levels with moderate flow in the side channel.

Only the invasive Asian clam was collected from the surveyed area. It was observed throughout the surveyed area in quantities TNTC. No target species were collected during the survey effort.

Representative habitat photographs of Chattahoochee River (below Langdale Dam)



Photograph 1 - Area adjacent to dam.



Photograph 2 - Shoals below dam.



Photograph 3 - Langdale Dam generation facility.

Resource Name	Chattahoochee River (above Crow Hop Dam)
Date(s) surveyed	6/17/20
Time(s) surveyed	8:22 AM to 12:30 PM
Survey method	Mussels - hand grubbing, snorkeling, and SCUBA
Survey length	180 m above Crow Hop Dam 200 m side channel above Crow Hop Dam
Water temperature (°C)	23.09
Dissolved oxygen (mg/L)	7.47
pH level	6.12
Conductivity (µS/cm)	0.047
Salinity (ppt)	0.0
Turbidity (NTU)	0.0
Wetted width (range and/or average)	Main channel: Avg. 450' Side channel: 70' to 145' Avg. 100'
Water depth (range and average)	Main channel: 3' to 12' Avg. 10' Side channel: 3' to 6' Avg. 4'
Stream substrate	Right bank: 80% mixed sand, 15% gravel, 5% clay Left bank: 40% boulder, 20% mixed sand, 20% clay, 10% cobble, 10% silt
Stream geomorphology	straight channel with right side and middle of channel consisting primarily of mixed sands; left side of channel contained more rock/boulder and a deeper channel
Flow rate	low – 675 cfs
Discharge	moderate
Vegetative buffer width	75+ feet each side
Bank/channel condition	Incised in places and showing some signs of active erosion
Amount of woody debris	moderate
Target species surveyed for	oval pigtoe, purple bankclimber, Gulf moccasinshell, and delicate spike

* No target species captured during survey

Chattahoochee River above Crow Hop Dam

The Chattahoochee River (above Crow Hop Dam) (Figure 3) provides poor to moderate quality habitat for the seven species (four target species): oval pigtoe, purple bankclimber, finelined pocketbook, ovate clubshell, Gulf moccasinshell, delicate spike, and southern elktoe. The substrate throughout most of the surveyed reaches in the side channel and main channel consists primarily of mixed sands with areas of varying mixtures of sand, cobble, and clay. Most of those areas consist of loosely packed sand. On the east side of the river, there is a somewhat more defined channel consisting of more boulders with sand and clay mixed in the interstitial spaces. Water discharge volume was dropped to 675 cfs at the West Point Lake Dam to aid in the survey. There is a moderate amount of woody debris and undercut banks scattered throughout the survey area. The water was very clear and had a moderate flow.

One mussel species, southern rainbow, as well as one invasive clam species, Asian clam, were collected during the survey. Five individuals of the southern rainbow were collected at the locations within the surveyed area as shown in Figure 8. The Asian clam was observed throughout the surveyed area in quantities TNTC. No target species were collected during the survey effort.

Representative habitat photographs of Chattahoochee River (above Crow Hop Dam)



Photograph 1 - Western shoreline, upstream of dam.



Photograph 2 - Eastern shoreline, upstream of dam.



Photograph 3 - Western channel above dam, facing upstream.



Photograph 4 - Western channel above dam, facing downstream.

Resource Name	Chattahoochee River (below Crow Hop Dam)
Date(s) surveyed	6/17/20
Time(s) surveyed	12:30 PM to 3:45 PM
Survey Method	Mussels - hand grubbing and snorkeling
Survey Length	300 m below Crow Hop Dam
Water temperature (°C)	23.09
Dissolved oxygen (mg/L)	7.47
pH level	6.12
Conductivity (µS/cm)	0.047
Salinity (ppt)	0.0
Turbidity (NTU)	0.0
Wetted width (range and/or average)	Channel at dam: 450' to 750' Avg. 500' Split channels: Avg. 200'
Water depth (range and average)	Main channel: 1' to 15' Avg. 3' Split channels: 2' to 12' Avg. 3'
Stream substrate	50% bedrock/boulder, 20% cobble/gravel, 20% mixed sand, 10% clay
Stream geomorphology	channel consists of rock shoals across the width of the river at the dam; left channel contains a deeper channel while the right channel consists of more shallow shoal areas
Flow rate	low – 675 cfs
Discharge	moderate
Vegetative buffer width	75+ feet each side
Bank/channel condition	Incised in places and showing some signs of active erosion
Amount of woody debris	light
Target species surveyed for	oval pigtoe, purple bankclimber, Gulf moccasinshell, and delicate spike

* No target species captured during survey

Chattahoochee River below Crow Hop Dam

The Chattahoochee River (below Crow Hop Dam) (Figure 3) provides poor to moderate quality habitat for the seven species (four target species): oval pigtoe, purple bankclimber, finelined pocketbook, ovate clubshell, Gulf moccasinshell, delicate spike, and southern elktoe. The substrate throughout the area immediately below the dam consists of primarily a mix of bedrock, boulders, and sands in the interstitial spaces. Most of those areas consist of loosely packed sand. On the east side of the river, there is a somewhat deeper channel consisting of more boulders with sand and clay mixed in the interstitial spaces. The west side channel below the dam consists of more cobble with loosely packed sand/silt/and clay. Water discharge

volume was dropped to 675 cfs at the West Point Lake Dam to aid in the survey. There is very little woody debris in the channels. The water was very clear and had moderate to strong flow in the main channel below the dam.

One mussel species, southern rainbow, as well as one invasive clam species, Asian clam, were collected during the survey. Two individuals of the southern rainbow were collected at the locations within the surveyed area as shown in Figure 8. The Asian clam was observed throughout the surveyed area in quantities TNTC. No target species were collected during the survey effort.

Representative habitat photographs of Chattahoochee River (below Crow Hop Dam)



Photograph 1 - Western shoreline, downstream of dam.



Photograph 2 - Eastern shoreline, downstream of dam.



Photograph 3 - Crow Hop Dam.



Photograph 4 - Shoals downstream of dam.

Resource Name	Chattahoochee River (above Riverview Dam)
Date(s) surveyed	6/18/20
Time(s) surveyed	9:00 AM to 11:30 AM
Survey method	Mussels - hand grubbing and snorkeling
Survey length	200 m in channel above Riverview Dam
Water temperature (°C)	23.08
Dissolved oxygen (mg/L)	7.89
pH level	5.89
Conductivity (µS/cm)	0.045
Salinity (ppt)	0.0
Turbidity (NTU)	0.0
Wetted width (range and/or average)	Channel: 100' to 300' Avg. 110'
Water depth (range and average)	Channel: 2' to 12' Avg. 7'
Stream substrate	60% boulder/cobble (rip-rap), 30% mixed sand, 5% clay, 5% silt
Stream geomorphology	straight channel with sides consisting primarily of rock and rip-rap; center of channel contained a little more sand mixed with clay and silt
Flow rate	low – 675 cfs
Discharge	Moderate to swift
Vegetative buffer width	75+ feet each side
Bank/channel condition	Incised in places and showing some signs of active erosion
Amount of woody debris	light
Target species surveyed for	oval pigtoe, purple bankclimber, Gulf moccasinshell, and delicate spike

* No target species captured during survey

Side Channel of Chattahoochee River above Riverview Dam

The side channel of the Chattahoochee River (above Riverview Dam) (Figure 3) provides poor quality habitat for the seven species (four target species): oval pigtoe, purple bankclimber, finelined pocketbook, ovate clubshell, Gulf moccasinshell, delicate spike, and southern elktoe. The substrate throughout most of the surveyed reach in the side channel consists primarily of rock and rip-rap along the sides of the channel while the middle consists of mixed sands with areas of varying mixtures of sand, cobble, clay, and silt. Most of those areas consist of loosely packed sand. The flow rate in the channel increased significantly closer to the dam and the channel could not be surveyed safely. Water discharge volume was dropped to 675 cfs at the West Point Lake Dam to aid in the survey. There is a light amount of woody debris, over hanging limbs, and undercut banks scattered throughout the survey area. The water was very clear and had a moderate to swift flow.

Two mussel species: Gulf spike and southern rainbow, as well as one invasive clam species, Asian clam, were collected during the survey. Nine individuals of the Gulf spike and three individuals of the southern rainbow were collected at the locations within the surveyed area as shown in Figure 9. The Asian clam was observed throughout the surveyed area in quantities TNTC. No target species were collected during the survey effort.

Representative habitat photograph of Chattahoochee River (above Riverview Dam)



Photograph 1 - Western shoreline, upstream of dam.

Resource Name	Channel at dam, Side Channel and Chattahoochee River (below Riverview Dam)
Date(s) surveyed	6/18/20
Time(s) surveyed	11:30 AM to 3:00 PM
Survey method	Mussels - hand grubbing, Aqua-Viewers, snorkeling, and SCUBA
Survey length	230 m in channel below powerhouse 275 m below Crow Hop Dam
Water temperature (°C)	23.08
Dissolved oxygen (mg/L)	7.89
pH level	5.89
Conductivity (µS/cm)	0.045
Salinity (ppt)	0.0
Turbidity (NTU)	0.0
Wetted width (range and/or average)	Channel at dam: Avg. 150' funnels down to a 50' wide very swift flowing section Side Channel below powerhouse: Avg. 35' Main River: Avg. 600'
Water depth (range and average)	Channel at dam: 1' to 12' Avg. 4' Side channel: 2' to 4' Avg. 3' Main river: 2' to 10' Avg. 5'
Stream substrate	Channel at dam: 60% bedrock/boulder, 20% cobble/gravel, 20% mixed sand/clay Side channel: 70% silty clay, 25% mixed sands, 5% cobble Main river: 40% mixed sands, 30% bedrock/boulder, 20% cobble/gravel, 10% clay
Stream geomorphology	channel consists of rock shoals across the width of the river at the dam and funnels down to deeper channel to the Main River; channel below powerhouse is a shallow channel with uniform soft substrates
Flow rate	low – 675 cfs
Discharge	Channel at dam: swift Side channel: slow Main river: moderate
Vegetative buffer width	75+ feet each side
Bank/channel condition	Incised in places and showing some signs of active erosion
Amount of woody debris	light
Target species surveyed for	oval pigtoe, purple bankclimber, Gulf moccasinshell, and delicate spike

* No target species captured during survey

Channel at dam, Side Channel and Chattahoochee River below Riverview Dam

The channel (below Riverview Dam) (Figure 3) provides poor to moderate quality habitat for the seven species (four target species): oval pigtoe, purple bankclimber, finelined pocketbook, ovate clubshell, Gulf moccasinshell, delicate spike, and southern elktoe. The substrate throughout the area immediately below the dam consists of primarily a mix of bedrock, boulders, and sands in the interstitial spaces. Most of those areas consist of loosely packed sand. This area funnels down and creates a swift flowing channel down to the main river channel. Overflow on both the east and west sides create shallow rocky shoals with loose sand between the rocks. The side channel discharging from the powerhouse consists almost entirely of soft loose substrate. There is a light amount of woody debris along this channel. The main stem of the Chattahoochee River consists of shoals of bedrock and boulders. Further downstream, the channel substrate changes to mostly sand with scattered boulders throughout. On the east side of the river, there is a somewhat deeper channel consisting of more boulders with sand and clay mixed in the interstitial spaces. Water discharge volume was dropped to 675 cfs at the West Point Lake Dam to aid in the survey. There is very little woody debris in the main channel. The water was very clear and had moderate to strong flow in the main channel below the dam.

Only the invasive Asian clam was collected from the surveyed area. It was observed throughout the surveyed area in quantities TNTC. No target species were collected during the survey effort.

Representative habitat photographs of Chattahoochee River (below Riverview Dam)



Photograph 1 - Western shoreline, downstream of dam.



Photograph 2 - Chattahoochee River Eastern shoreline, downstream of dam.



Photograph 3 - Below Riverview Dam.



Photograph 4 - Below Riverview Dam.

III. AQUATIC SURVEY FINDINGS

A. Target Species Survey Results

No target species were identified during the surveys. Poor to marginal habitat for the target species was observed.

B. Full Survey Results (non-target species included)

See Appendix III for photo vouchers of non-target species.

Stream	Scientific name	Common name	Federally listed	State listed	# Collected (June 16-18, 2020)
Chattahoochee River (above Langdale Dam)	<i>Elliptio pullata</i>	Gulf spike	No	No	3
	<i>Villosa vibex</i>	southern rainbow	No	No	9
	<i>Corbicula fluminea</i>	Asian clam	No	No	TNTC*
Chattahoochee River (below Langdale Dam)	<i>Corbicula fluminea</i>	Asian clam	No	No	TNTC
Chattahoochee River (above Crow Hop Dam)	<i>Villosa vibex</i>	southern rainbow	No	No	5
	<i>Corbicula fluminea</i>	Asian clam	No	No	TNTC
Chattahoochee River (below Crow Hop Dam)	<i>Villosa vibex</i>	southern rainbow	No	No	2
	<i>Corbicula fluminea</i>	Asian clam	No	No	TNTC
Chattahoochee River (above Riverview Dam)	<i>Elliptio pullata</i>	Gulf spike	No	No	9
	<i>Villosa vibex</i>	southern rainbow	No	No	3
	<i>Corbicula fluminea</i>	Asian clam	No	No	TNTC
Chattahoochee River (below Riverview Dam)	<i>Corbicula fluminea</i>	Asian clam	No	No	TNTC

* - Too numerous to count (TNTC)

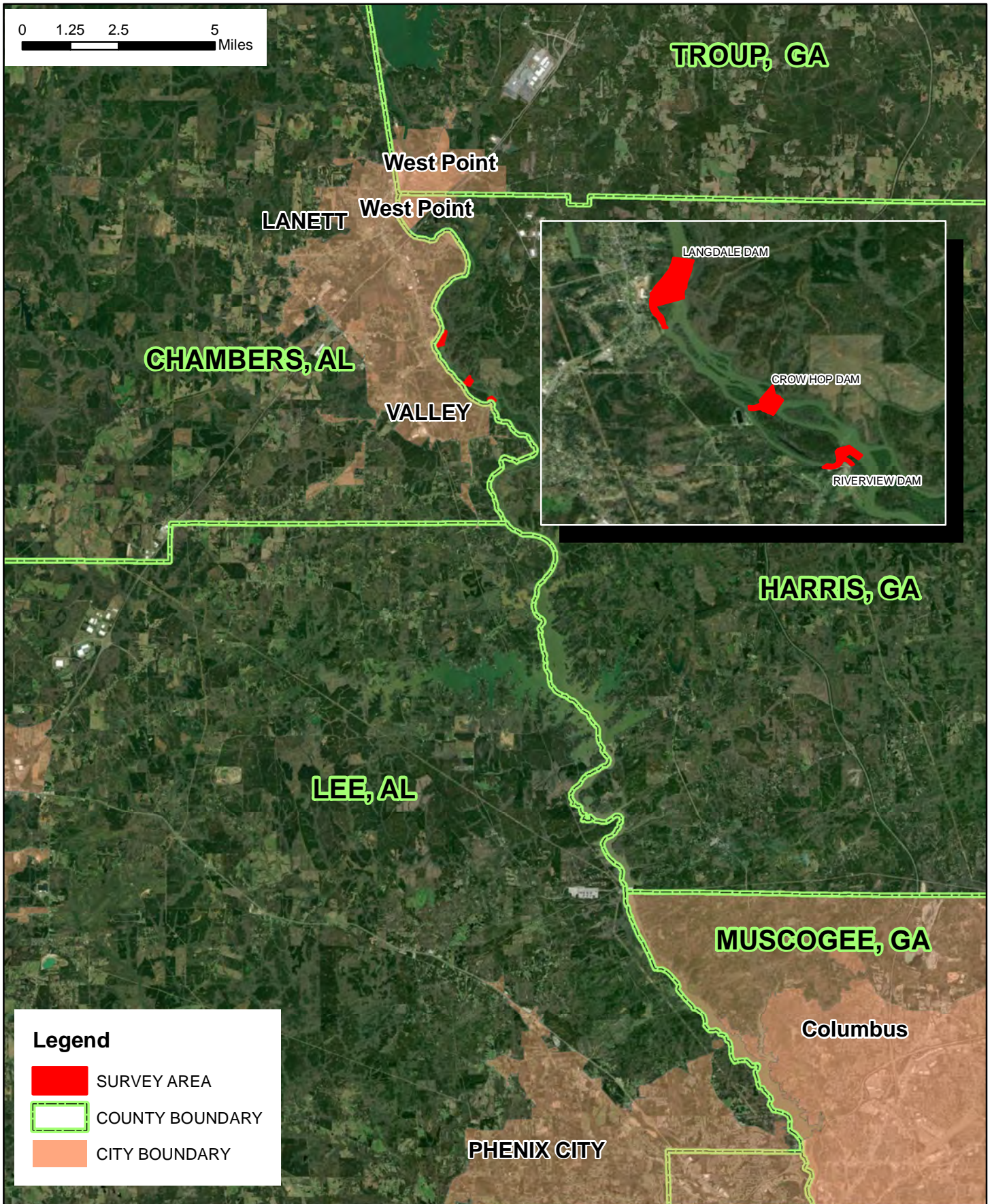
C. Results of Study

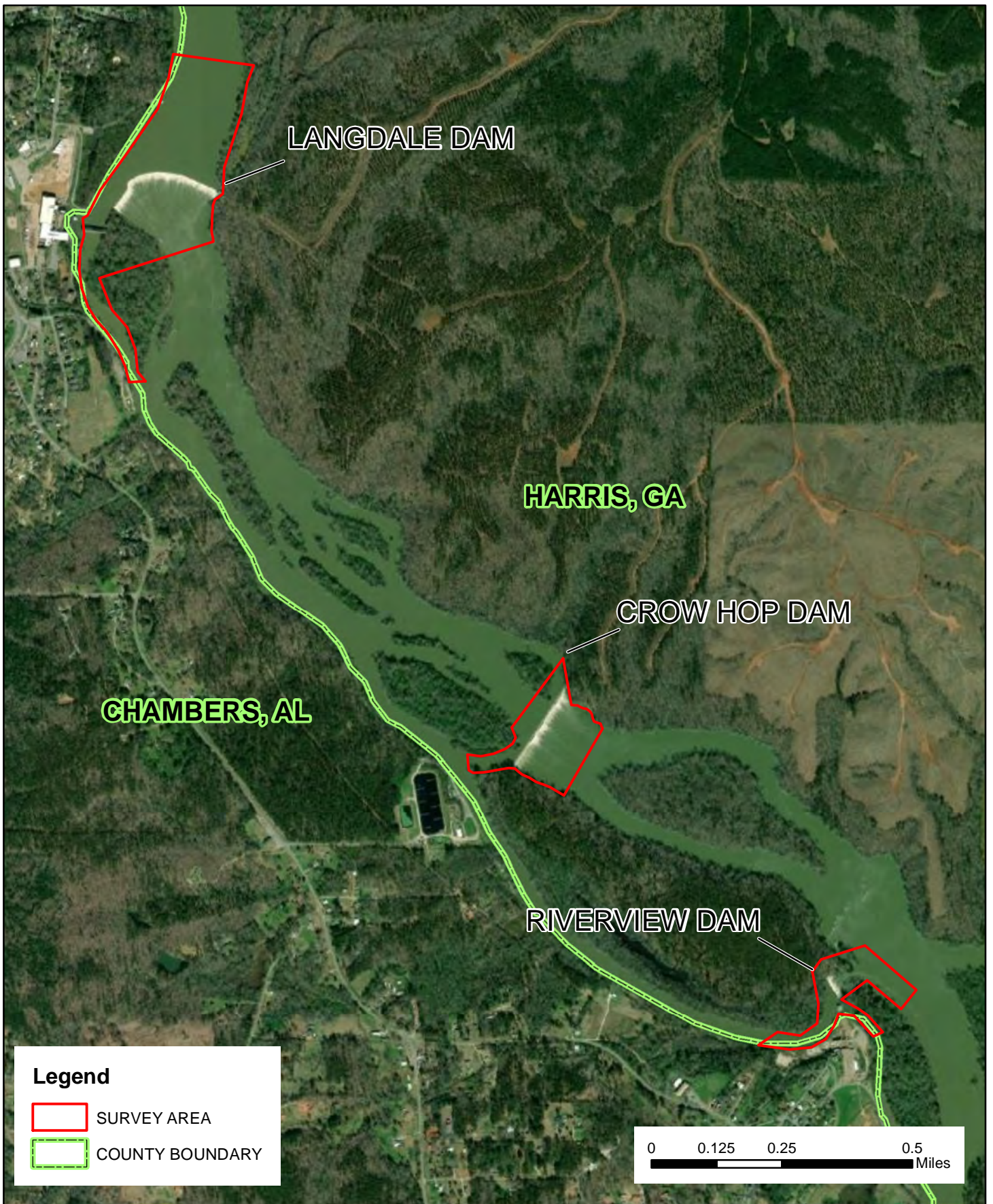
No target species were identified during the surveys. Two mussel species totaling 31 individuals were collected and released. Twelve Gulf spike (*Elliptio pullata*) and 19 southern rainbow (*Villosa vibex*) mussels were collected. All species collected are considered stable throughout their current range.

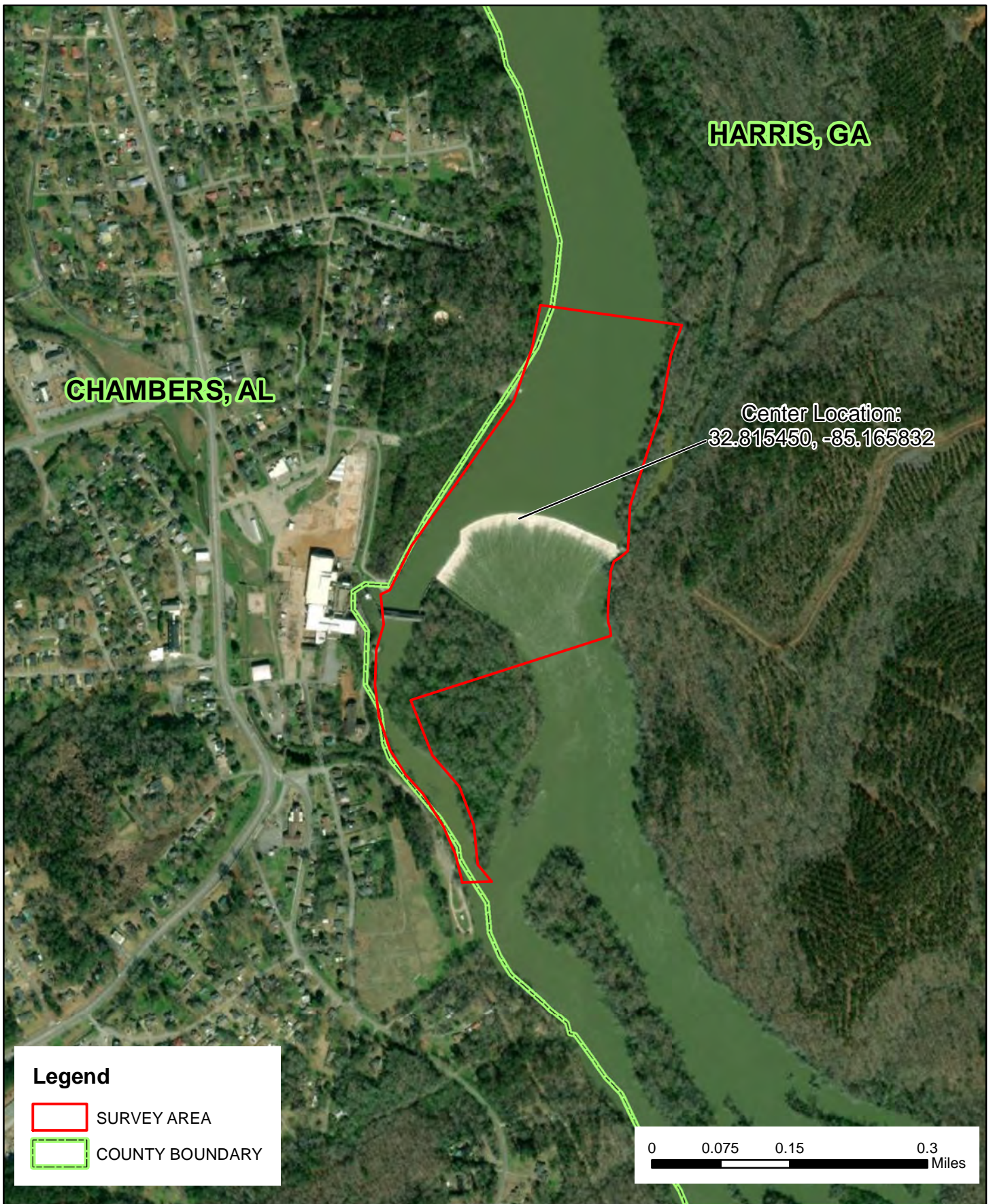
IV. Appendices

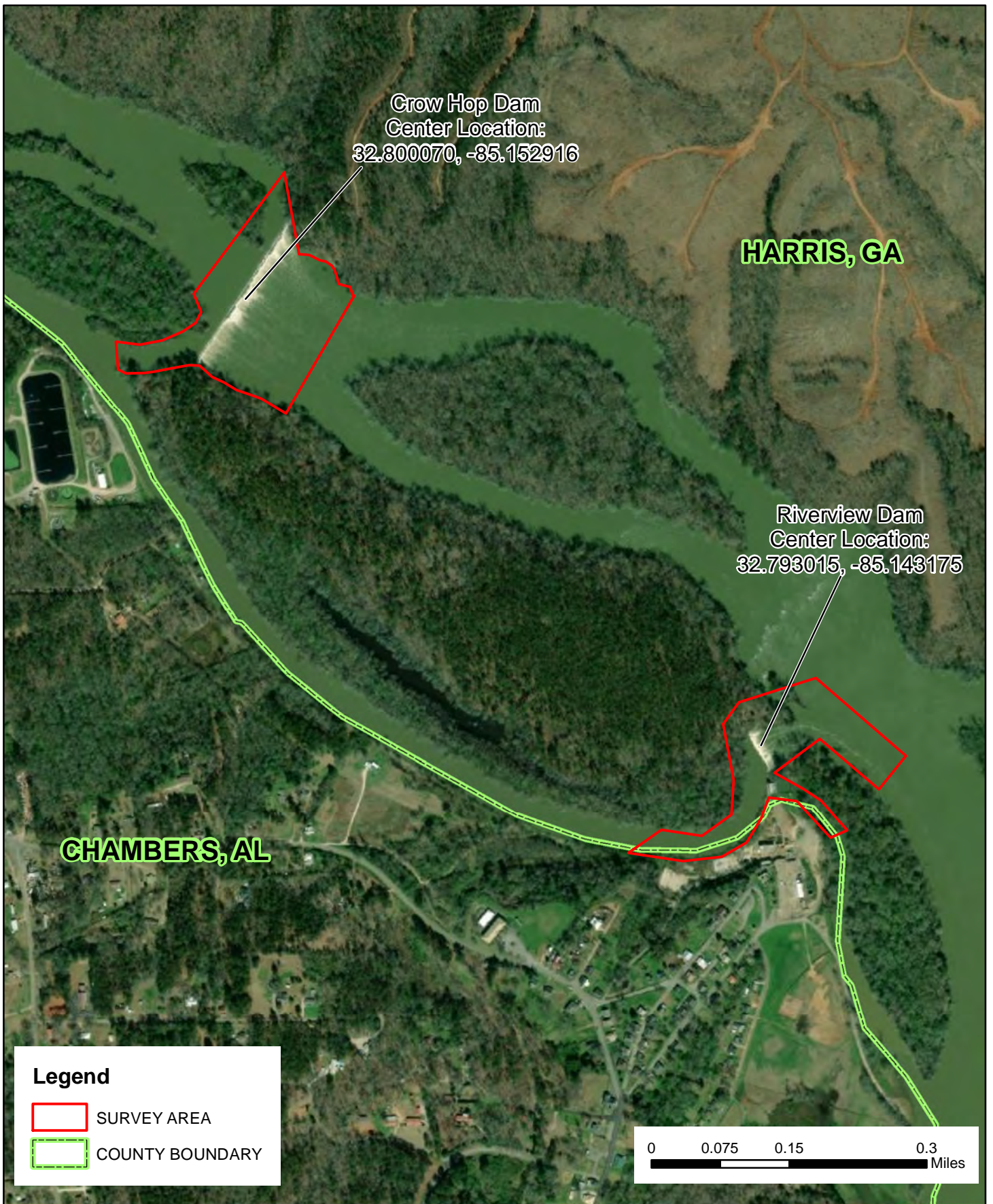
Appendix I: Figures

Freshwater Mussel Survey Report
Langdale and Riverview Hydroelectric Projects
FERC Project Numbers 2341 and 2350
September 2020

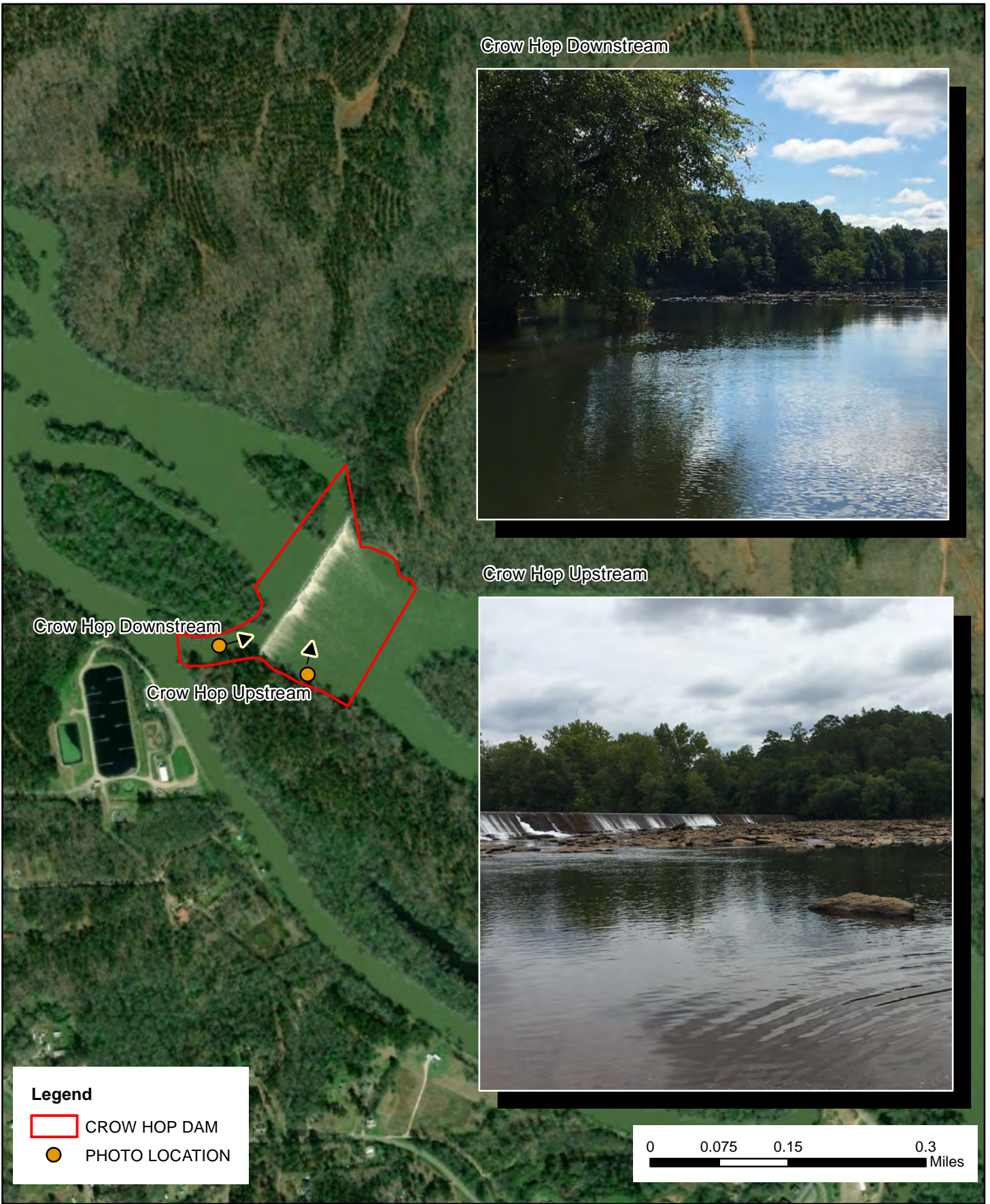




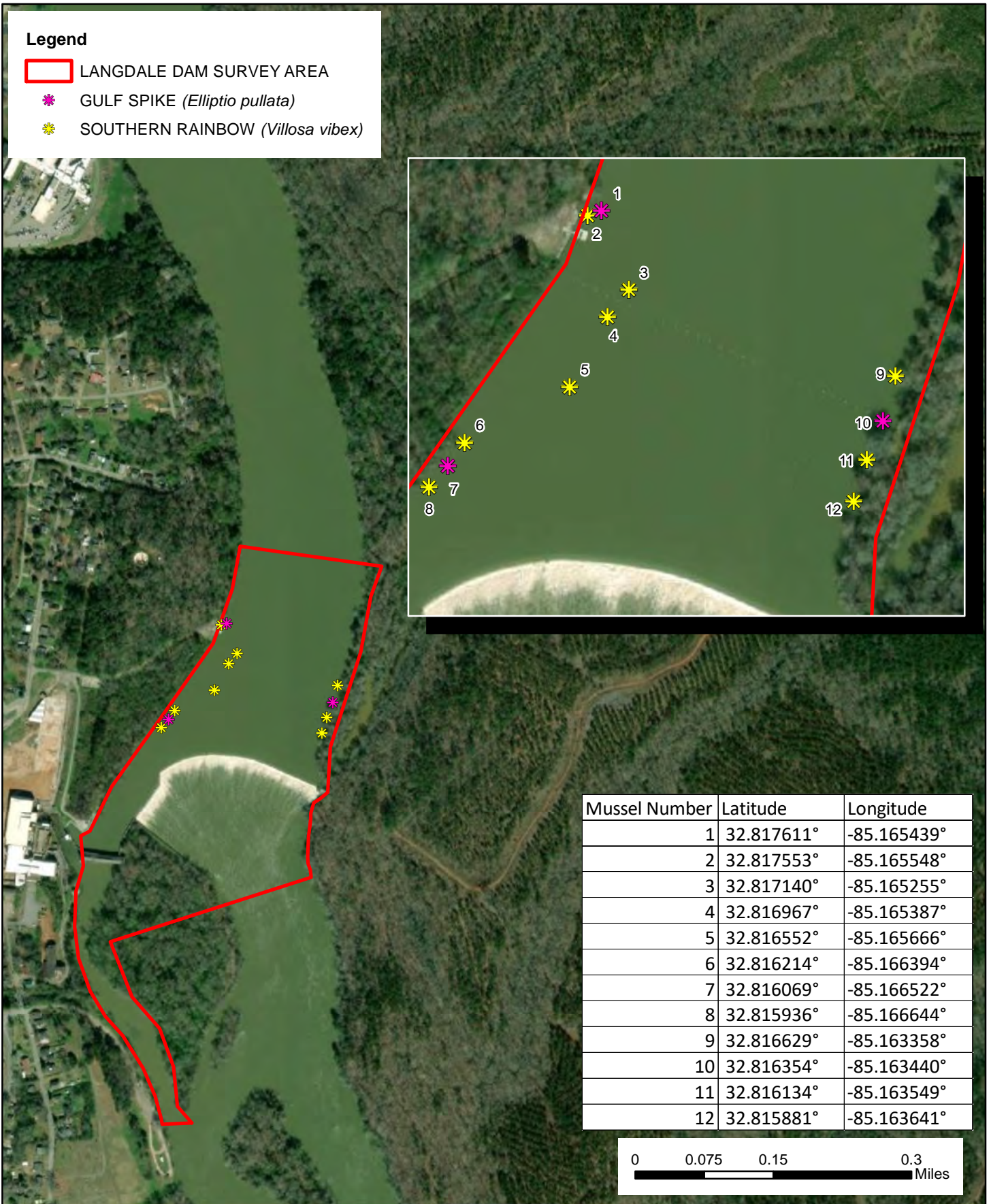


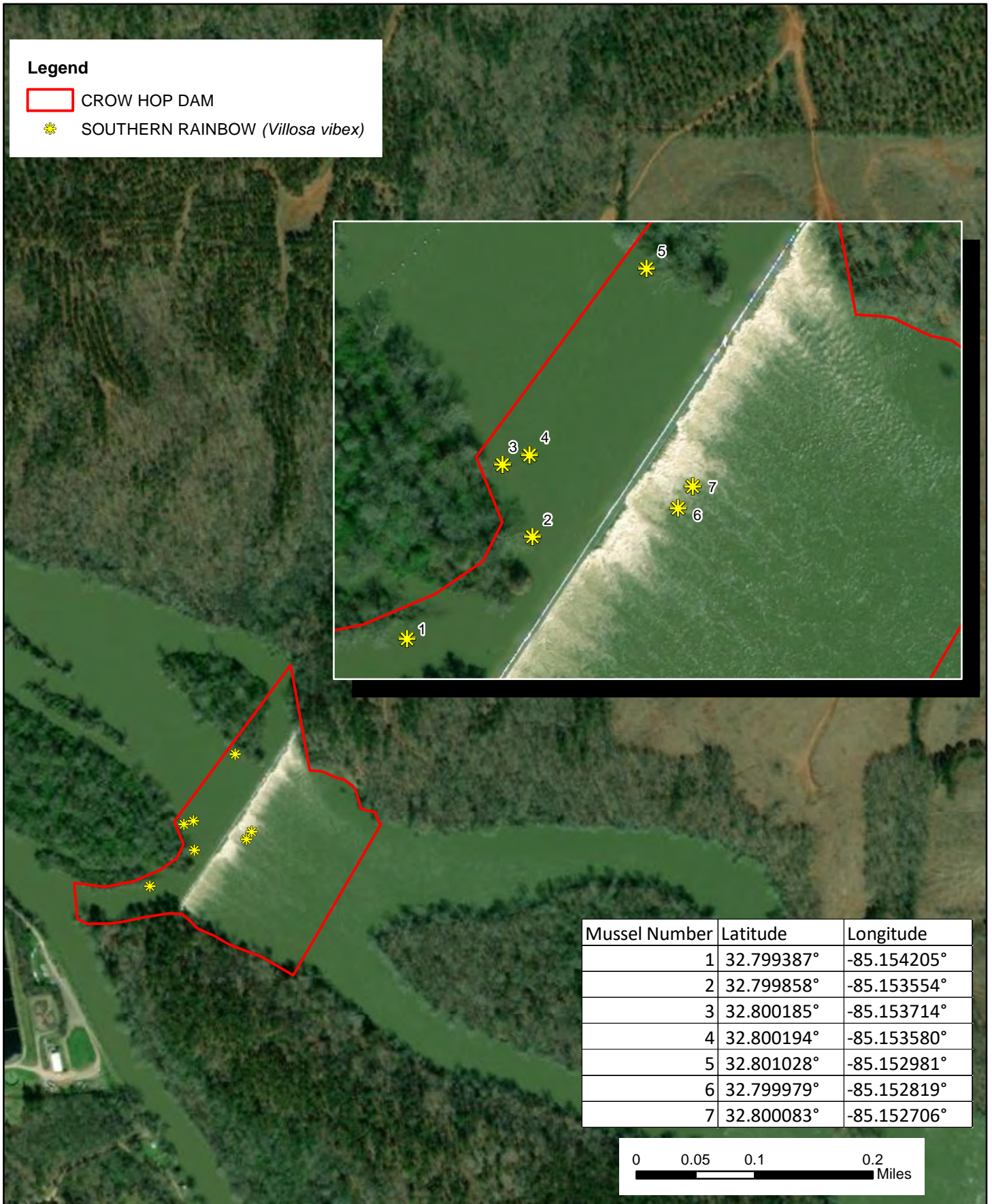


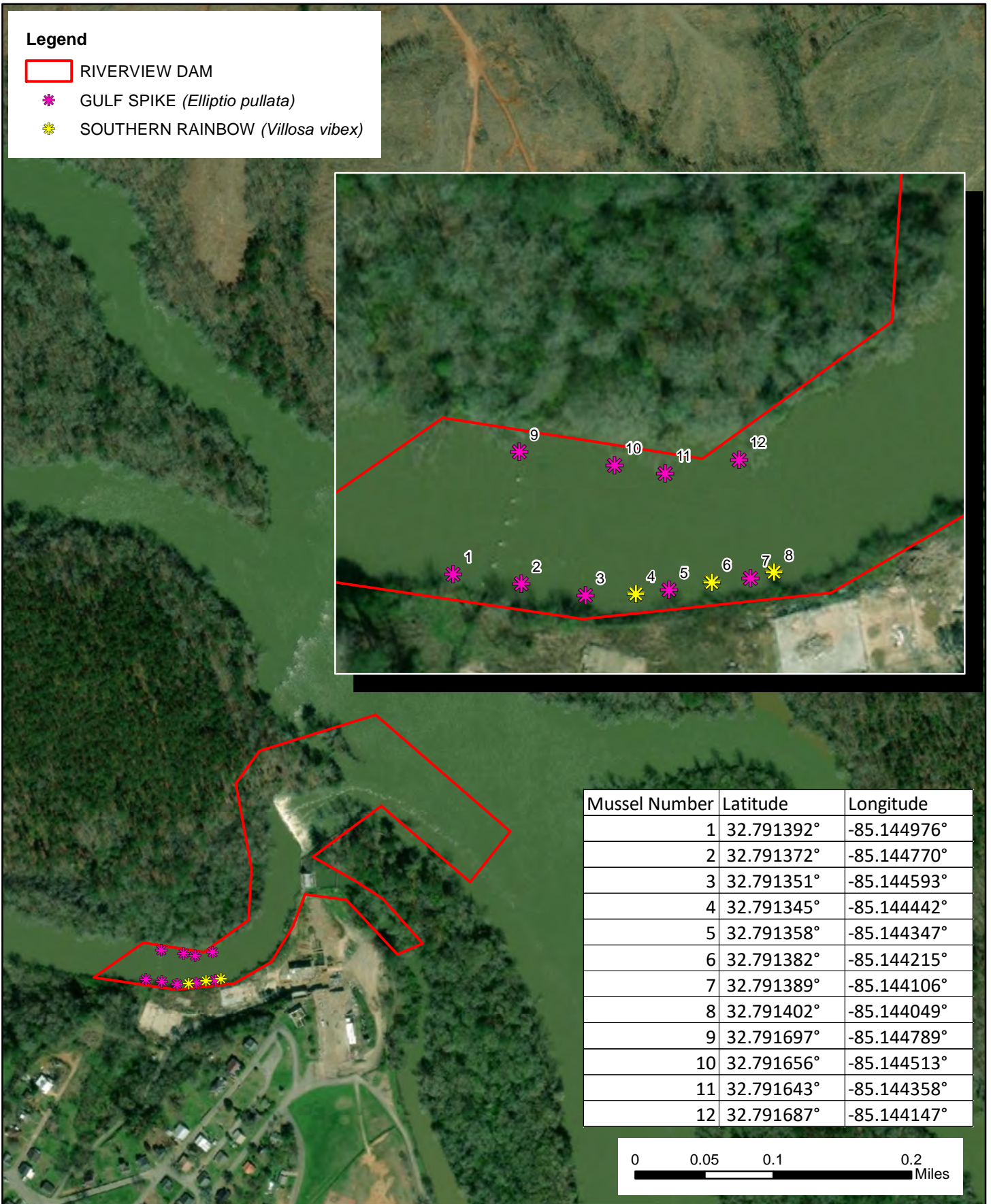












Appendix II: Agency Coordination

Freshwater Mussel Survey Report
Langdale and Riverview Hydroelectric Projects
FERC Project Numbers 2341 and 2350
September 2020



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Georgia Ecological Services Field Office
355 East Hancock Avenue
Room 320
Athens, GA 30601
Phone: (706) 613-9493 Fax: (706) 613-6059

In Reply Refer To:

August 06, 2020

Consultation Code: 04EG1000-2020-SLI-3175

Event Code: 04EG1000-2020-E-05856

Project Name: Langdale, Crow Hop, Riverview Dam Removal

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design if you determine those species or designated critical habitat may be affected by your proposed project.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally listed species, please consult with the Service. Through the consultation process, we will analyze information contained in a biological assessment or equivalent document that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a Habitat Conservation Plan) may be necessary to exempt harm or harass federally listed threatened or endangered fish or wildlife species. For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

Action Area. The scope of federally listed species compliance not only includes direct effects, but also any indirect effects of project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations). The action area is the spatial extent of an action's direct and indirect modifications to the land, water, or air (50 CFR 402.02). Large projects may have effects to land, water, or air outside the immediate footprint of the project, and these areas should be included as part of the action area. Effects to land, water, or air outside of a project footprint could include things like lighting, dust, smoke, and noise. To obtain a complete list of species, the action area should be uploaded or drawn in IPaC rather than just the project footprint.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

If you determine that your action may affect any federally listed species and would like technical assistance from our office please provide the following information (reference to these items can be found in 50 CFR402.13 and 402.14):

A description of the proposed action, including any measures intended to avoid, minimize, or offset effects of the action. Consistent with the nature and scope of the proposed action, the description shall provide sufficient detail to assess the effects of the action on listed species and critical habitat, including:

1. The purpose of the action;
 2. The duration and timing of the action;
 3. The location of the action;
-

4. The specific components of the action and how they will be carried out;
5. Description of areas to be affected directly or indirectly by the action;
6. Information on the presence of listed species in the action area;
7. Description of effects of the action on species in the action area;
8. Maps, drawings, blueprints, or similar schematics of the action; and
9. Any other available information related to the nature and scope of the proposed action relevant to its effects on listed species or designated critical habitat (examples include: stormwater plans, management plans, erosion and sediment plans).

Please submit all consultation documents via email to gaes_assistance@fws.gov or by using IPaC, uploaded documents, and sharing the project with a specific Georgia Ecological Services staff member. If the project is on-going, documents can also be sent to the Georgia ES staff member currently working with you on your project. For Georgia Department of Transportation-related projects, please work with the Office of Environmental Services ecologist to determine the appropriate USFWS transportation liaison.

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

Information related to wind energy development and migratory birds can be found at this location: <https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/wind-energy.php>.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to “disturb” eagles. Under the BGEPA, the Service may issue limited permits to incidentally “take” eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at <https://www.fws.gov/birds/management/managed-species/bald-and-golden-eagle-information.php> and <https://www.fws.gov/birds/management/managed-species/eagle-management.php>. Additionally the following site will help you determine if your activity is likely to take or disturb bald eagles in the southeast (<https://www.fws.gov/southeast/our-services/eagle-technical-assistance>).

NATIVE BAT COMMENTS

If your species list includes Indiana bat or northern long-eared bat and the project is expected to impact forested habitat that is appropriate for maternity colonies of these species, forest clearing during the winter. Federally listed bats could be actively present in forested landscapes from April 1 to October 15 of any year and have non-volant pups from May 15 to July 31 in any year. Non-volant pups are incapable of flight and are vulnerable to disturbance during that time. Additional information on bat avoidance and minimization can be found at the following link: https://www.fws.gov/athens/transportation/pdfs/Bat_AMMs.pdf.

Additional information that addresses at-risk or high priority natural resources can be found in the State Wildlife Action Plan (<https://georgiawildlife.com/WildlifeActionPlan>), at Georgia Department of Natural Resources, Wildlife Resources Division Rare Species and Natural Community Portal (<https://georgiawildlife.com/conservation/species-of-concern>), Georgia's Natural, Archaeological, and Historic Resources GIS portal (<https://www.gnahrgis.org/gnahrgis/index.do>), and Georgia Ecological Services Watershed Guidance portal (<https://www.fws.gov/athens/transportation/coordination.html>).

Thank you for your concern for endangered and threatened species. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further

consultation on your proposed activity, please email gaes_assistance@fws.gov and reference your Service Consultation Tracking Number (Consultation Code).

This letter constitutes Georgia Ecological Services' general comments under the authority of the Endangered Species Act.

Attachment(s):

- Official Species List
 - Migratory Birds
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Georgia Ecological Services Field Office

355 East Hancock Avenue

Room 320

Athens, GA 30601

(706) 613-9493

Project Summary

Consultation Code: 04EG1000-2020-SLI-3175

Event Code: 04EG1000-2020-E-05856

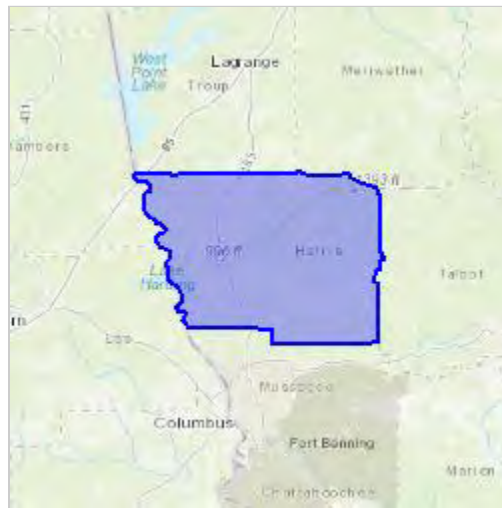
Project Name: Langdale, Crow Hop, Riverview Dam Removal

Project Type: DAM

Project Description: Removal of Langdale, crow hop, and riverview dams along the Chattahoochee river.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/32.728535192391746N84.89907053566674W>



Counties: Harris, GA

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

Flowering Plants

NAME	STATUS
Fringed Campion <i>Silene polypetala</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3738	Endangered
Georgia Rockcress <i>Arabis georgiana</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4535	Threatened
Little Amphianthus <i>Amphianthus pusillus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6445	Threatened
Relict Trillium <i>Trillium reliquum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8489	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Georgia Rockcress <i>Arabis georgiana</i> https://ecos.fws.gov/ecp/species/4535#crithab	Final

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel <i>Falco sparverius paulus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 1 to Aug 31
Bachman's Sparrow <i>Aimophila aestivalis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6177	Breeds May 1 to Sep 30

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626</p>	Breeds Sep 1 to Jul 31
<p>Blue-winged Warbler <i>Vermivora pinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds May 1 to Jun 30
<p>Cerulean Warbler <i>Dendroica cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974</p>	Breeds Apr 26 to Jul 20
<p>Common Ground-dove <i>Columbina passerina exigua</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Feb 1 to Dec 31
<p>Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Aug 20
<p>Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 20 to Aug 20
<p>Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31
<p>Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 1 to Jul 31
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p>Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>Swallow-tailed Kite <i>Elanoides forficatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938</p>	Breeds Mar 10 to Jun 30

NAME	BREEDING SEASON
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

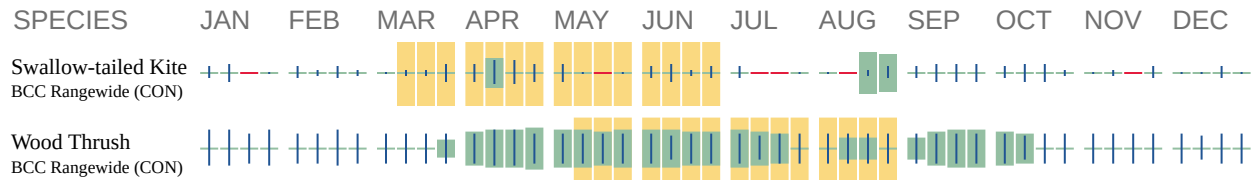
How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)



Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Alabama Ecological Services Field Office
1208 B Main Street
Daphne, AL 36526-4419
Phone: (251) 441-5181 Fax: (251) 441-6222

In Reply Refer To:

August 06, 2020

Consultation Code: 04EA1000-2020-SLI-1324

Event Code: 04EA1000-2020-E-03446

Project Name: Langdale, Crow Hop, Riverview Dam Removal

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. Please note that new information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Note that due to the volume of emails received by our office, we cannot accept project consultation requests by email.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Also note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the process and consultation under the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs

for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/pdf/management/usfwscommunicationtowerguidance.pdf>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

We can be reached at:

US Fish and Wildlife Service

1208 Main Street

Daphne, AL 36526

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Alabama Ecological Services Field Office

1208 B Main Street

Daphne, AL 36526-4419

(251) 441-5181

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Wood Stork <i>Mycteria americana</i> Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8477	Threatened

Clams

NAME	STATUS
<p>Finelined Pocketbook <i>Lampsilis altilis</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1393</p>	Threatened
<p>Oval Pigtoe <i>Pleurobema pyriforme</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4132</p>	Endangered
<p>Ovate Clubshell <i>Pleurobema perovatum</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5430</p>	Endangered
<p>Purple Bankclimber (mussel) <i>Elliptoideus sloatianus</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7660</p>	Threatened

Flowering Plants

NAME	STATUS
<p>Little Amphianthus <i>Amphianthus pusillus</i></p> <p>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6445</p>	Threatened
<p>White Fringeless Orchid <i>Platanthera integrilabia</i></p> <p>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1889</p>	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Georgia Ecological Services Field Office
355 East Hancock Avenue
Room 320
Athens, GA 30601
Phone: (706) 613-9493 Fax: (706) 613-6059

In Reply Refer To:

August 05, 2020

Consultation Code: 04EG1000-2020-SLI-0284

Event Code: 04EG1000-2020-E-05831

Project Name: Langdale Dam ESI:20236-675

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design if you determine those species or designated critical habitat may be affected by your proposed project.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally listed species, please consult with the Service. Through the consultation process, we will analyze information contained in a biological assessment or equivalent document that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a Habitat Conservation Plan) may be necessary to exempt harm or harass federally listed threatened or endangered fish or wildlife species. For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

Action Area. The scope of federally listed species compliance not only includes direct effects, but also any indirect effects of project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations). The action area is the spatial extent of an action's direct and indirect modifications to the land, water, or air (50 CFR 402.02). Large projects may have effects to land, water, or air outside the immediate footprint of the project, and these areas should be included as part of the action area. Effects to land, water, or air outside of a project footprint could include things like lighting, dust, smoke, and noise. To obtain a complete list of species, the action area should be uploaded or drawn in IPaC rather than just the project footprint.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

If you determine that your action may affect any federally listed species and would like technical assistance from our office please provide the following information (reference to these items can be found in 50 CFR402.13 and 402.14):

A description of the proposed action, including any measures intended to avoid, minimize, or offset effects of the action. Consistent with the nature and scope of the proposed action, the description shall provide sufficient detail to assess the effects of the action on listed species and critical habitat, including:

1. The purpose of the action;
 2. The duration and timing of the action;
 3. The location of the action;
-

4. The specific components of the action and how they will be carried out;
5. Description of areas to be affected directly or indirectly by the action;
6. Information on the presence of listed species in the action area;
7. Description of effects of the action on species in the action area;
8. Maps, drawings, blueprints, or similar schematics of the action; and
9. Any other available information related to the nature and scope of the proposed action relevant to its effects on listed species or designated critical habitat (examples include: stormwater plans, management plans, erosion and sediment plans).

Please submit all consultation documents via email to gaes_assistance@fws.gov or by using IPaC, uploaded documents, and sharing the project with a specific Georgia Ecological Services staff member. If the project is on-going, documents can also be sent to the Georgia ES staff member currently working with you on your project. For Georgia Department of Transportation-related projects, please work with the Office of Environmental Services ecologist to determine the appropriate USFWS transportation liaison.

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

Information related to wind energy development and migratory birds can be found at this location: <https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/wind-energy.php>.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to “disturb” eagles. Under the BGEPA, the Service may issue limited permits to incidentally “take” eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at <https://www.fws.gov/birds/management/managed-species/bald-and-golden-eagle-information.php> and <https://www.fws.gov/birds/management/managed-species/eagle-management.php>. Additionally the following site will help you determine if your activity is likely to take or disturb bald eagles in the southeast (<https://www.fws.gov/southeast/our-services/eagle-technical-assistance>).

NATIVE BAT COMMENTS

If your species list includes Indiana bat or northern long-eared bat and the project is expected to impact forested habitat that is appropriate for maternity colonies of these species, forest clearing during the winter. Federally listed bats could be actively present in forested landscapes from April 1 to October 15 of any year and have non-volant pups from May 15 to July 31 in any year. Non-volant pups are incapable of flight and are vulnerable to disturbance during that time. Additional information on bat avoidance and minimization can be found at the following link: https://www.fws.gov/athens/transportation/pdfs/Bat_AMMs.pdf.

Additional information that addresses at-risk or high priority natural resources can be found in the State Wildlife Action Plan (<https://georgiawildlife.com/WildlifeActionPlan>), at Georgia Department of Natural Resources, Wildlife Resources Division Rare Species and Natural Community Portal (<https://georgiawildlife.com/conservation/species-of-concern>), Georgia's Natural, Archaeological, and Historic Resources GIS portal (<https://www.gnahrgis.org/gnahrgis/index.do>), and Georgia Ecological Services Watershed Guidance portal (<https://www.fws.gov/athens/transportation/coordination.html>).

Thank you for your concern for endangered and threatened species. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further

consultation on your proposed activity, please email gaes_assistance@fws.gov and reference your Service Consultation Tracking Number (Consultation Code).

This letter constitutes Georgia Ecological Services' general comments under the authority of the Endangered Species Act.

Attachment(s):

- Official Species List
 - Migratory Birds
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Georgia Ecological Services Field Office

355 East Hancock Avenue

Room 320

Athens, GA 30601

(706) 613-9493

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Alabama Ecological Services Field Office

1208 B Main Street

Daphne, AL 36526-4419

(251) 441-5181

Project Summary

Consultation Code: 04EG1000-2020-SLI-0284

Event Code: 04EG1000-2020-E-05831

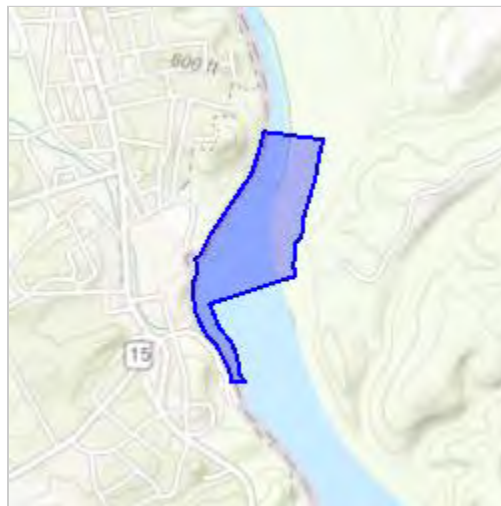
Project Name: Langdale Dam ESI:20236-675

Project Type: DAM

Project Description: Removal of Langdale Dam, on the Chattahoochee River, Harris County, Georgia.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/32.81421884283096N85.16596436831735W>



Counties: Chambers, AL | Harris, GA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Flowering Plants

NAME	STATUS
Georgia Rockcress <i>Arabis georgiana</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4535	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p>https://ecos.fws.gov/ecp/species/1626</p>	Breeds Sep 1 to Jul 31
<p>Prairie Warbler <i>Dendroica discolor</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31

NAME	BREEDING SEASON
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

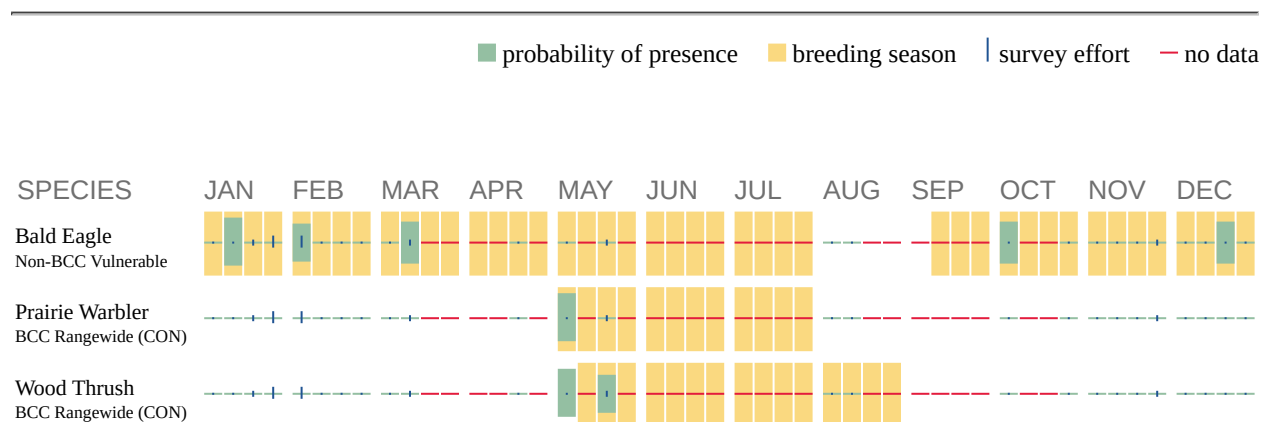
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding

in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In

contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Alabama Ecological Services Field Office
1208 B Main Street
Daphne, AL 36526-4419
Phone: (251) 441-5181 Fax: (251) 441-6222

In Reply Refer To:

August 05, 2020

Consultation Code: 04EA1000-2020-SLI-0124

Event Code: 04EA1000-2020-E-03419

Project Name: Langdale Dam ESI:20236-675

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. Please note that new information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Note that due to the volume of emails received by our office, we cannot accept project consultation requests by email.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Also note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the process and consultation under the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs

for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/pdf/management/usfwscommunicationtowerguidance.pdf>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

We can be reached at:

US Fish and Wildlife Service

1208 Main Street

Daphne, AL 36526

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Alabama Ecological Services Field Office

1208 B Main Street

Daphne, AL 36526-4419

(251) 441-5181

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Georgia Ecological Services Field Office

355 East Hancock Avenue

Room 320

Athens, GA 30601

(706) 613-9493

Project Summary

Consultation Code: 04EA1000-2020-SLI-0124

Event Code: 04EA1000-2020-E-03419

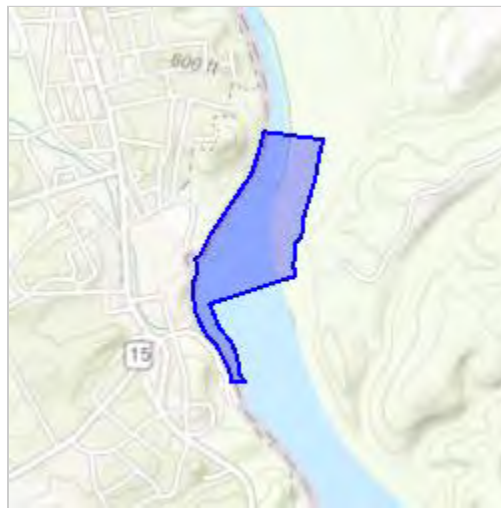
Project Name: Langdale Dam ESI:20236-675

Project Type: DAM

Project Description: Removal of Langdale Dam, on the Chattahoochee River, Harris County, Georgia.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/32.81421884283096N85.16596436831735W>



Counties: Chambers, AL | Harris, GA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Clams

NAME	STATUS
Oval Pigtoe <i>Pleurobema pyriforme</i>	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/4132	

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Georgia Ecological Services Field Office
355 East Hancock Avenue
Room 320
Athens, GA 30601
Phone: (706) 613-9493 Fax: (706) 613-6059

In Reply Refer To:

August 05, 2020

Consultation Code: 04EG1000-2020-SLI-0286

Event Code: 04EG1000-2020-E-05827

Project Name: Riverview Dam ESI: 20236-675

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design if you determine those species or designated critical habitat may be affected by your proposed project.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally listed species, please consult with the Service. Through the consultation process, we will analyze information contained in a biological assessment or equivalent document that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a Habitat Conservation Plan) may be necessary to exempt harm or harass federally listed threatened or endangered fish or wildlife species. For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

Action Area. The scope of federally listed species compliance not only includes direct effects, but also any indirect effects of project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations). The action area is the spatial extent of an action's direct and indirect modifications to the land, water, or air (50 CFR 402.02). Large projects may have effects to land, water, or air outside the immediate footprint of the project, and these areas should be included as part of the action area. Effects to land, water, or air outside of a project footprint could include things like lighting, dust, smoke, and noise. To obtain a complete list of species, the action area should be uploaded or drawn in IPaC rather than just the project footprint.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

If you determine that your action may affect any federally listed species and would like technical assistance from our office please provide the following information (reference to these items can be found in 50 CFR402.13 and 402.14):

A description of the proposed action, including any measures intended to avoid, minimize, or offset effects of the action. Consistent with the nature and scope of the proposed action, the description shall provide sufficient detail to assess the effects of the action on listed species and critical habitat, including:

1. The purpose of the action;
 2. The duration and timing of the action;
 3. The location of the action;
-

4. The specific components of the action and how they will be carried out;
5. Description of areas to be affected directly or indirectly by the action;
6. Information on the presence of listed species in the action area;
7. Description of effects of the action on species in the action area;
8. Maps, drawings, blueprints, or similar schematics of the action; and
9. Any other available information related to the nature and scope of the proposed action relevant to its effects on listed species or designated critical habitat (examples include: stormwater plans, management plans, erosion and sediment plans).

Please submit all consultation documents via email to gaes_assistance@fws.gov or by using IPaC, uploaded documents, and sharing the project with a specific Georgia Ecological Services staff member. If the project is on-going, documents can also be sent to the Georgia ES staff member currently working with you on your project. For Georgia Department of Transportation-related projects, please work with the Office of Environmental Services ecologist to determine the appropriate USFWS transportation liaison.

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

Information related to wind energy development and migratory birds can be found at this location: <https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/wind-energy.php>.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to “disturb” eagles. Under the BGEPA, the Service may issue limited permits to incidentally “take” eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at <https://www.fws.gov/birds/management/managed-species/bald-and-golden-eagle-information.php> and <https://www.fws.gov/birds/management/managed-species/eagle-management.php>. Additionally the following site will help you determine if your activity is likely to take or disturb bald eagles in the southeast (<https://www.fws.gov/southeast/our-services/eagle-technical-assistance>).

NATIVE BAT COMMENTS

If your species list includes Indiana bat or northern long-eared bat and the project is expected to impact forested habitat that is appropriate for maternity colonies of these species, forest clearing during the winter. Federally listed bats could be actively present in forested landscapes from April 1 to October 15 of any year and have non-volant pups from May 15 to July 31 in any year. Non-volant pups are incapable of flight and are vulnerable to disturbance during that time. Additional information on bat avoidance and minimization can be found at the following link: https://www.fws.gov/athens/transportation/pdfs/Bat_AMMs.pdf.

Additional information that addresses at-risk or high priority natural resources can be found in the State Wildlife Action Plan (<https://georgiawildlife.com/WildlifeActionPlan>), at Georgia Department of Natural Resources, Wildlife Resources Division Rare Species and Natural Community Portal (<https://georgiawildlife.com/conservation/species-of-concern>), Georgia's Natural, Archaeological, and Historic Resources GIS portal (<https://www.gnahrgis.org/gnahrgis/index.do>), and Georgia Ecological Services Watershed Guidance portal (<https://www.fws.gov/athens/transportation/coordination.html>).

Thank you for your concern for endangered and threatened species. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further

consultation on your proposed activity, please email gaes_assistance@fws.gov and reference your Service Consultation Tracking Number (Consultation Code).

This letter constitutes Georgia Ecological Services' general comments under the authority of the Endangered Species Act.

Attachment(s):

- Official Species List
 - Migratory Birds
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Georgia Ecological Services Field Office

355 East Hancock Avenue

Room 320

Athens, GA 30601

(706) 613-9493

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Alabama Ecological Services Field Office

1208 B Main Street

Daphne, AL 36526-4419

(251) 441-5181

Project Summary

Consultation Code: 04EG1000-2020-SLI-0286

Event Code: 04EG1000-2020-E-05827

Project Name: Riverview Dam ESI: 20236-675

Project Type: DAM

Project Description: Removal of Riverview Dam, on the Chattahoochee River, Harris County, Georgia.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/32.79272207497864N85.14327291145155W>



Counties: Chambers, AL | Harris, GA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Flowering Plants

NAME	STATUS
Georgia Rockcress <i>Arabis georgiana</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4535	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p>https://ecos.fws.gov/ecp/species/1626</p>	Breeds Sep 1 to Jul 31
<p>Prairie Warbler <i>Dendroica discolor</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31

NAME	BREEDING SEASON
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

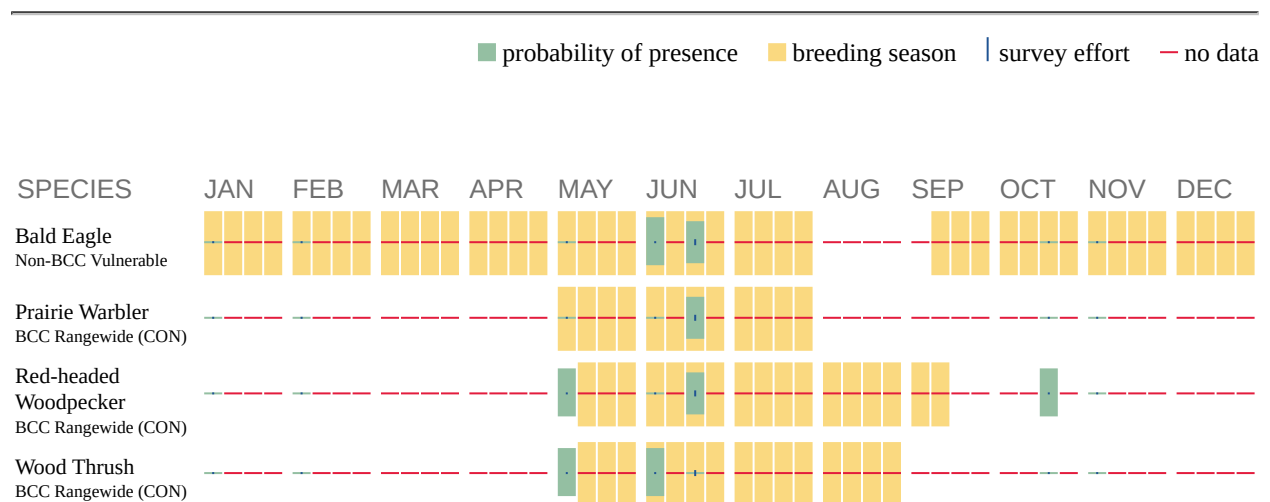
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
 - Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
 - Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>
-

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of

interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC

use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Alabama Ecological Services Field Office
1208 B Main Street
Daphne, AL 36526-4419
Phone: (251) 441-5181 Fax: (251) 441-6222

In Reply Refer To:

August 05, 2020

Consultation Code: 04EA1000-2020-SLI-0125

Event Code: 04EA1000-2020-E-03418

Project Name: Riverview Dam ESI: 20236-675

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. Please note that new information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Note that due to the volume of emails received by our office, we cannot accept project consultation requests by email.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Also note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the process and consultation under the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs

for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/pdf/management/usfwscommunicationtowerguidance.pdf>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

We can be reached at:

US Fish and Wildlife Service

1208 Main Street

Daphne, AL 36526

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Alabama Ecological Services Field Office

1208 B Main Street
Daphne, AL 36526-4419
(251) 441-5181

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Georgia Ecological Services Field Office

355 East Hancock Avenue
Room 320
Athens, GA 30601
(706) 613-9493

Project Summary

Consultation Code: 04EA1000-2020-SLI-0125

Event Code: 04EA1000-2020-E-03418

Project Name: Riverview Dam ESI: 20236-675

Project Type: DAM

Project Description: Removal of Riverview Dam, on the Chattahoochee River, Harris County, Georgia.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/32.79272207497864N85.14327291145155W>



Counties: Chambers, AL | Harris, GA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Clams

NAME	STATUS
Oval Pigtoe <i>Pleurobema pyriforme</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4132	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Georgia Ecological Services Field Office
355 East Hancock Avenue
Room 320
Athens, GA 30601
Phone: (706) 613-9493 Fax: (706) 613-6059

In Reply Refer To:

August 05, 2020

Consultation Code: 04EG1000-2020-SLI-0285

Event Code: 04EG1000-2020-E-05829

Project Name: Crow Hop Dam ESI:20236-675

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design if you determine those species or designated critical habitat may be affected by your proposed project.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally listed species, please consult with the Service. Through the consultation process, we will analyze information contained in a biological assessment or equivalent document that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a Habitat Conservation Plan) may be necessary to exempt harm or harass federally listed threatened or endangered fish or wildlife species. For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

Action Area. The scope of federally listed species compliance not only includes direct effects, but also any indirect effects of project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations). The action area is the spatial extent of an action's direct and indirect modifications to the land, water, or air (50 CFR 402.02). Large projects may have effects to land, water, or air outside the immediate footprint of the project, and these areas should be included as part of the action area. Effects to land, water, or air outside of a project footprint could include things like lighting, dust, smoke, and noise. To obtain a complete list of species, the action area should be uploaded or drawn in IPaC rather than just the project footprint.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

If you determine that your action may affect any federally listed species and would like technical assistance from our office please provide the following information (reference to these items can be found in 50 CFR402.13 and 402.14):

A description of the proposed action, including any measures intended to avoid, minimize, or offset effects of the action. Consistent with the nature and scope of the proposed action, the description shall provide sufficient detail to assess the effects of the action on listed species and critical habitat, including:

1. The purpose of the action;
 2. The duration and timing of the action;
 3. The location of the action;
-

4. The specific components of the action and how they will be carried out;
5. Description of areas to be affected directly or indirectly by the action;
6. Information on the presence of listed species in the action area;
7. Description of effects of the action on species in the action area;
8. Maps, drawings, blueprints, or similar schematics of the action; and
9. Any other available information related to the nature and scope of the proposed action relevant to its effects on listed species or designated critical habitat (examples include: stormwater plans, management plans, erosion and sediment plans).

Please submit all consultation documents via email to gaes_assistance@fws.gov or by using IPaC, uploaded documents, and sharing the project with a specific Georgia Ecological Services staff member. If the project is on-going, documents can also be sent to the Georgia ES staff member currently working with you on your project. For Georgia Department of Transportation-related projects, please work with the Office of Environmental Services ecologist to determine the appropriate USFWS transportation liaison.

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

Information related to wind energy development and migratory birds can be found at this location: <https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/wind-energy.php>.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to “disturb” eagles. Under the BGEPA, the Service may issue limited permits to incidentally “take” eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at <https://www.fws.gov/birds/management/managed-species/bald-and-golden-eagle-information.php> and <https://www.fws.gov/birds/management/managed-species/eagle-management.php>. Additionally the following site will help you determine if your activity is likely to take or disturb bald eagles in the southeast (<https://www.fws.gov/southeast/our-services/eagle-technical-assistance>).

NATIVE BAT COMMENTS

If your species list includes Indiana bat or northern long-eared bat and the project is expected to impact forested habitat that is appropriate for maternity colonies of these species, forest clearing during the winter. Federally listed bats could be actively present in forested landscapes from April 1 to October 15 of any year and have non-volant pups from May 15 to July 31 in any year. Non-volant pups are incapable of flight and are vulnerable to disturbance during that time. Additional information on bat avoidance and minimization can be found at the following link: https://www.fws.gov/athens/transportation/pdfs/Bat_AMMs.pdf.

Additional information that addresses at-risk or high priority natural resources can be found in the State Wildlife Action Plan (<https://georgiawildlife.com/WildlifeActionPlan>), at Georgia Department of Natural Resources, Wildlife Resources Division Rare Species and Natural Community Portal (<https://georgiawildlife.com/conservation/species-of-concern>), Georgia's Natural, Archaeological, and Historic Resources GIS portal (<https://www.gnahrgis.org/gnahrgis/index.do>), and Georgia Ecological Services Watershed Guidance portal (<https://www.fws.gov/athens/transportation/coordination.html>).

Thank you for your concern for endangered and threatened species. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further

consultation on your proposed activity, please email gaes_assistance@fws.gov and reference your Service Consultation Tracking Number (Consultation Code).

This letter constitutes Georgia Ecological Services' general comments under the authority of the Endangered Species Act.

Attachment(s):

- Official Species List
 - Migratory Birds
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Georgia Ecological Services Field Office

355 East Hancock Avenue

Room 320

Athens, GA 30601

(706) 613-9493

Project Summary

Consultation Code: 04EG1000-2020-SLI-0285

Event Code: 04EG1000-2020-E-05829

Project Name: Crow Hop Dam ESI:20236-675

Project Type: DAM

Project Description: Removal of Crow Hop Dam, on the Chattahoochee River, Harris County, Georgia

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/32.80018278023347N85.1523546683683W>



Counties: Harris, GA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Flowering Plants

NAME	STATUS
Georgia Rockcress <i>Arabis georgiana</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4535	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p>https://ecos.fws.gov/ecp/species/1626</p>	Breeds Sep 1 to Jul 31
<p>Prairie Warbler <i>Dendroica discolor</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31

NAME	BREEDING SEASON
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

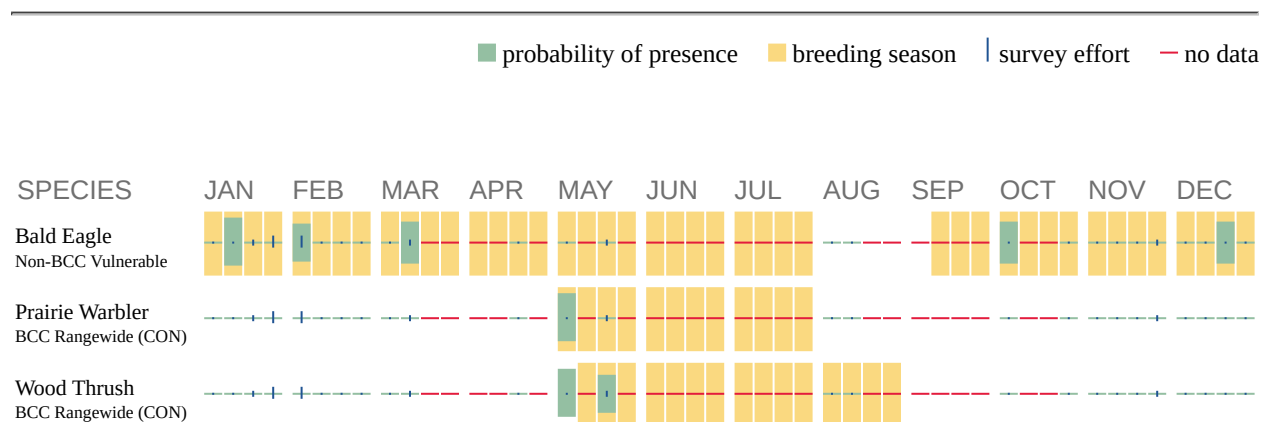
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding

in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In

contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

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0313000209 Long Cane Creek-Chattahoochee River

HUC 8 Watershed: Middle Chattahoochee-Lake Harding

Counties:

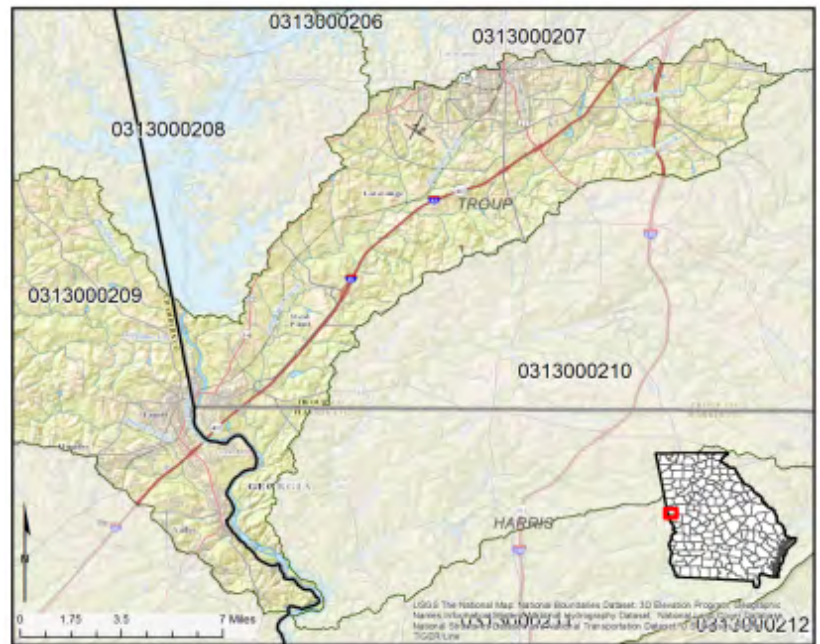
Harris, Troup

Major Waterbodies (in GA):

Long Cane Creek, Chattahoochee River,
Blue John Creek, Panther Creek, Oseligee
Creek, Harrell Lake

Federal Listed Species:

(historic, known occurrence, or likely to occur
in the watershed)



E - Endangered, T - Threatened, C - Candidate, CCA - Candidate Conservation species, PE - Proposed Endangered, PT - Proposed Threatened, Pet - Petitioned, R - Rare, U - Uncommon, SC - Species of Concern.

Red-cockaded Woodpecker (*Picoides borealis*) US: E; GA: E

Potential Range (county); Survey period: habitat any time of year or foraging individuals: 1 Apr - 31 May.

Little Amphianthus (*Amphianthus pusillus*) US: T; GA: T

Potential Range (county); Survey period: flowering 1 Mar - early May.

Georgia Rockcress (*Arabis georgiana*) US: T; GA: T

Potential Range (county); Survey period: 1 May - early July.

Federal Candidate, Candidate Conservation, or Petitioned Species:

(likely or known to occur in the watershed)

Delicate Spike (*Elliptio arctata*) US: Pet; GA: E

Occurrence; Survey period: year round, when water temperatures are above 10° C and excluding when stage is increasing or above normal.

Apalachicola Wild Indigo (*Baptisia megacarpa*) US: Pet

Occurrence; Surveys are best conducted during flowering and fruiting period (late April - early June).

Georgia Aster (*Symphotrichum georgianum*) US: CCA; GA: T

Potential Range (county); Survey period: habitat any time of year or foraging individuals: 1 Apr - 31 May.

State Listed or Other At-risk Species:

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(likely or known to occur in the watershed)

Bluestripe Shiner (*Cyprinella callitaenia*) GA: R

Occurrence; Please consult with GDNR for survey efforts.

Highscale Shiner (*Notropis hypsilepis*) GA: R

Occurrence; Please consult with GDNR for survey efforts.

Bald Eagle (*Haliaeetus leucocephalus*) GA: T

Occurrence; Survey period: year-round.

Croomia (*Croomia pauciflora*) GA: T

Occurrence; Please consult with GDNR for survey efforts.

Shoals Spiderlily (*Hymenocallis coronaria*) GA: T

Occurrence; Please consult with GDNR for survey efforts.

Any of the above species may occur in suitable habitat in this HUC 10 watershed. Survey dates are provided for reference only. Please coordinate with your lead federal agency, Georgia Department of Natural Resources, or USFWS to determine if surveys will help assess project impacts to species of concern.

Watershed Specific Concerns:

There are federally listed aquatic/wetland and terrestrial species that occur or could occur in this watershed. If the project contains suitable habitat for listed species, please contact your lead federal agency to determine the appropriate next step for those species to inform their NEPA and ESA decisions. Coordination with Georgia Department of Natural Resources may also be helpful in those decisions.

Bald Eagle: Bald Eagles and their nests are protected from take, including disturbance, under the federal Bald and Golden Eagle Protection Act. For information about Bald and Golden Eagles see the Service's regional web page: <https://www.fws.gov/southeast/our-services/permits/eagles/>

Red-cockaded Woodpecker: Red-cockaded Woodpecker requires large expanses of mature (approximately 60-80 years old or older), open pine forest, preferably longleaf, slash, or loblolly pine or younger forests with artificial nesting cavities. Natural nest cavities are excavated in mature living pines and may take several years to complete. Red-cockaded woodpecker colonies require large, contiguous tracts of habitat, ranging in size from approximately 60-600 acres per family group, depending upon the quality of the habitat. Currently, its range is fragmented and most populations are found on public lands where timber harvesting has not been maximized.

Georgia Rockcress: Georgia Rockcress occurs in shallow soils of rocky slopes/bluffs and river banks, over limestone or granite. This species is identifiable when fruiting, from May to early July.

Granite Outcrops: The geology in this watershed is favorable for granite outcrops harboring federally listed plants within this watershed. Listed granite outcrop species typically occur on exposed areas of granite or granitic-gneiss that have full sun exposure in the Piedmont physiographic province. All of these species occur in isolated "solution pits" (pools) that contain a thin layer of soil and will hold water in the spring when blooming and seeds are developed for Little Amphianthus and in the mid-summer storms for the spore-producing quillworts. During dry periods of the year, these pools will be completely dry with little to no plant life visible.

Georgia Aster: This watershed is within the range of candidate conservation species Georgia Aster. Georgia Aster can be



found in open forests or forest edges and right-of-ways. Use of prescribed fire or mowing in winter or early spring to create or maintain sunny openings, avoiding the use of herbicides, and avoiding clear-cutting and soil disturbance can help protect areas where this species occurs.

Freshwater Mussels: There are historic occurrences of federally protected freshwater mussels in watersheds of the Middle Chattahoochee River Basin above Lake Harding. These species are considered extirpated from HUC10 watersheds in this part of the basin and no aquatic surveys are recommended. Please refer to GADNR's coordination letter to determine if aquatic surveys are requested for state-protected species.

Species and Habitat Concerns

Bridges / Culverts / Structures: *Bridges, culverts, and structures (barns, buildings, etc.) can be used by migratory bird species for nesting and roosting and by federally listed and sensitive bat species for roosting. To comply with the national programmatic agreement between FHWA, FRA, and FWS and to assess risk and potential impacts to species protected under the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 et seq.), or state protected bat species, inspections of all bridges, culverts, and structures will help determine if there is evidence of roosting bats. If an inspection is conducted, please fill out the "Georgia Bats in Bridges" datasheet and submit the data online to GA DNR (a website address is provided on the datasheet) and a scanned copy with any report to the lead federal agency. Please note that there is an updated version of the datasheet and new link to the website (<https://ee.kobotoolbox.org/x/#YVhJ>). Please follow any previous coordination with the Service and/or Georgia Department of Natural Resources related to activities impacting roosting bats or nesting migratory birds.*

Erosion Control Netting: *Monofilament or plastic mesh commonly used for slope stabilization can ensnare snakes and other wildlife, including listed species. The use of alternative natural fibers (e.g., coir, jute, or wood fiber) and moveable mesh strands can reduce impacts to wildlife.*

Fish and Wildlife Coordination Act and additional Endangered Species Act Considerations

The Fish and Wildlife Coordination Act (FWCA) requires federal agencies to consider the effects of their water-related actions (that modify or control natural streams or waterbodies) on fish and wildlife resources. Many of the following recommendations are also specific to endangered or threatened aquatic species protected under the Endangered Species Act. The following may be applicable to proposed project actions.

Riparian Buffer, Streambank, and Stream Channel Protection

Minimize disturbance to stream banks and riparian areas during project work. Do not operate equipment in the stream channel or ford the channel during work. Service recommendations for riparian buffer protection are consistent with those of the Metropolitan North Georgia Water Planning District requiring maintenance of a 50 ft. undisturbed buffer and an additional 25 ft. impervious setback on all streams. Any staging areas, the storage of materials and equipment, borrow pits, or waste sites should not occur in buffer areas or other environmentally sensitive areas. Additionally, when impacts to streambanks and/or stream channel occur, the Service recommends a biotechnical approach to streambank and channel stabilization and restoration where feasible. The use of hard armoring of streambanks or channels should be minimized except where necessary for safety or the protection of structures or property.

Wetland Protection

Wetland losses diminish important wetland values including: the provision of habitat which wetland and terrestrial fauna need for reproduction and/or survival, the storage of storm and flood waters with resultant moderation of flow extremes for receiving waters, and the natural filtration processes that enhance water quality. Wetlands along riparian corridors can provide important connectivity for wildlife movement at the landscape-level. Bridge or culvert construction associated with wetland impacts can alter stream hydrology, degrade water quality, create fish passage barriers, and result in the loss of stream bottom habitat. Measures to avoid and reduce impacts to wetlands and wetland hydrology should be considered during project design.

Water Quality Protection

The Service recommends use of erosion control practices, post construction stormwater management, and other best management practices to protect water quality. The Service's recommendations can be found below.

Erosion and Sedimentation *Sedimentation from construction sites is regulated through Georgia's Erosion and Sedimentation Act, which in most cases is administered by local jurisdictions that have been delegated enforcement authority. We recommend all projects ensure compliance with the Georgia Erosion and Sedimentation Act and encourage consistent communication with the local issuing authority or Georgia Environmental Protection Division*

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both in the design phase and during construction.

Stormwater Post construction stormwater management recommendations are consistent with performance standards for Water Quality protection (WQv) and Channel Protection (CPv) found in the Georgia Stormwater Management Manual, otherwise known as the Blue Book (<https://atlantaregional.org/georgia-stormwater-management-manual/>). The Service recommends both the Water Quality and Channel Protection performance standards be met on all projects when applicable under the Blue Book, to minimize impacts to water quality associated with stormwater runoff. For projects that drain to streams or wetlands with federally protected species, we would recommend that additional water quality protection be provided through implementation of the Runoff Reduction performance standard, also found in the Blue Book.

Other Protections For all project types, the Service recommends equipment storage, equipment maintenance, supply storage, and use of pesticides, herbicides, and/or other chemicals not occur within the 100-year floodplain or 200 feet from the stream banks or wetland edge, whichever is greater. All storage and maintenance areas should be protected with secondary containment. Material utilized in, or adjacent to aquatic resources for temporary fill, permanent fill, or bank protection shall consist of suitable material, free from toxic contaminants in other than trace quantities. Materials that contain toxic contaminants, such as used asphalt, pressure treated lumber, and uncured concrete, should not be used because it can alter water quality causing mortality in aquatic organisms and can be harmful to public health. For projects authorized by the U.S. Army Corps of Engineers, please ensure that all permit conditions are followed.

Road Stream Crossings (Bridges, Culverts)

Many road stream crossings, especially where pipe culverts are used, limit aquatic organism passage upstream and downstream, leading to fragmentation of aquatic populations. The construction, repair, and replacement of stream crossings can also increase turbidity and sedimentation downstream of road crossings leading to degradation of aquatic habitat. The Service recommends designs that provide habitat continuity through the crossing by maintaining or recreating natural stream reach geomorphic elements including slope, channel width, bed material, and bedform.

Bridges and arch spans are the preferred option for stream crossings from an aquatic habitat continuity perspective. However, when spanning the stream is prohibitively expensive, use of culverts at stream crossings must be designed and implemented in a way that ensures the structures do not become barriers to aquatic organism passage. Making culverts suitable for aquatic organism passage requires preventing excessive water velocities in culverts at base flow conditions, preventing drops resulting from scour in and around the culvert, and providing adequate depth in the culvert at base flows.

The Service recommends following the U.S. Army Corps of Engineers, Savannah District Regional Conditions for Nationwide Permits when designing culverts. The Regional Conditions contain specific guidelines for designing and constructing culverts to promote the safe passage of fish and other aquatic organisms.

Additional information about regional conditions can be found at the following web address:

<http://www.sas.usace.army.mil/Missions/Regulatory/Permitting/General-Permits/Regional-General-Permits/>

For culvert replacements or extensions involving less than 100 feet of all stream impacts in total, FWCA coordination is not required where no federally listed aquatic species occur. When modifying the design of a culvert that was previously consulted on under FWCA (but excluding those previously exempt from past coordination), new consultation would not be required unless stream impacts have been increased by more than 10% or 50 feet (whichever is less), or the change results in modifications to the morphology or flow of the waterbody.

When bridges or arch spans are the chosen construction method, the Service recommends minimizing the number of in-stream piles or structures and aligning them with the natural stream flow. Additionally, the use of bridge scuppers that directly discharge stormwater to streams should be minimized, except where necessary for safety. For bridge construction activities that require the use of temporary in-stream construction access (e.g., jetties, work bridges, barges, etc.), the Service recommends performing all work in a manner that does not inhibit aquatic organism passage, including minimizing river constriction. For situations where river constriction is greater than 25% of the cross sectional area of the critical flow, we would recommend a flow analysis to evaluate water velocity alterations and development of a contingency plan in the event channel scour, bank erosion, or undesirable conditions occur. Upon completion of activities, temporary fills should be entirely removed and the site restored to pre-existing elevation. Equipment should not be stored on any in-stream structure to reduce equipment loss if flows exceed the height of the in-stream structure and reduce contamination from pollutant leakage during off-use times.

Direct all stormwater runoff from road approaches toward floodplains, letting the runoff discharge as sheet flow across the floodplain or into stormwater management structures. When road approaches are composed of unpaved

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surfaces, consider paving the road approaches to improve the water quality of stormwater runoff around stream crossing locations. If spread footers, containment structures, or other structures require the use of dry or poured concrete, flowable fill, or similar materials and are elected for use in the construction within any waterway, such methods shall be constructed using cofferdams or similar containment structures. If uncured, dry or wet concrete will be used, the water used for curing shall not be allowed into the waterways. The use of uncured concrete in a waterway can raise the pH of the surrounding water causing mortality in aquatic organisms and potential public health concerns.

The Service also recommends incorporating measures to provide connectivity and reduce mortality to terrestrial wildlife species during project design. Opportunities for terrestrial species to cross under road crossings at stream crossing locations exist both within the banks of the stream along constructed benches, as well as, in the floodplain when additional structures are used to pass flood flows.

Utility Stream Crossings Construction, relocation, and maintenance of powerlines and other utilities can disturb aquatic systems and affect fish and other populations. To minimize impacts from these activities, use best management practices to control stormwater runoff from the project area during construction. Direct runoff via sheetflow to vegetated areas or stormwater treatment basins and utilize rolling dips or water bars to divert water from the utility right-of-way (ROW) into vegetated areas on slopes to minimize erosion.

Underground Utilities Directional boring is preferred when a utility line must be installed across a perennial stream that supports federally protected aquatic species. Bore pits should be located as far away from the stream channel as possible.

Dry open trench pipe installation using isolation crossing diversions, such as coffer dams, are preferred for all other perennial stream crossings. The diversions should not dewater downstream reaches or create excessive water velocity that could scour downstream reaches. Wet open trench construction should be avoided in all perennial streams unless no other method is feasible, or if it can be shown that alternative methods would cause greater sedimentation and environmental harm. For both wet and dry open trench installation, stream banks and channels should be restored to their original contours and the banks stabilized with native vegetation (except in areas where permanent road crossings are to be maintained). In-channel stream restoration techniques should be considered to stabilize the channel elevation and protect buried utility lines. In-channel restoration techniques can also effectively prevent downstream scour or upstream head cutting which can result from open trenching.

Wet open trench installation should not be conducted during the sensitive reproductive periods of federally-listed aquatic species, when eggs and newly-hatched larvae are most likely to be buried or harmed by increased turbidity and sedimentation. Only directional boring or isolation crossing methods should be used during these times of year. Please consult the Service for timing of sensitive reproductive periods for aquatic species in this watershed.

Aerial Utilities Maintain a 100-foot undisturbed riparian buffer within the powerline's ROW on both sides of all streams with endangered or threatened aquatic species. No crossings, either temporary or permanent, via culverts, fords, or other methods should be constructed and all access roads should end at the buffer's edge farthest from the streambank. The buffer, where possible, should be retained in or planted with native vegetation of at least shrub size.

Within the powerline's ROW, maintain a 50-foot riparian buffer on both sides of other perennial and intermittent streams that will be crossed. Some vegetation within these buffer zones may be temporarily disturbed if culverts, fords, or other stream crossings are necessary, but streambanks should be restored to normal contours and stabilized after the crossing is removed.

Impoundments/Farm Ponds

For proposed impoundments, the Service recommends excavated ponds be constructed where feasible. Though the volume of material requiring excavation is greater to construct an excavated pond, they have fewer problems than dammed ponds, which can be plagued with muddy water, rapid filling with silt, flow rate fluctuations, aquatic weeds, temperature fluctuations, and wild fish invasions.

The Service recommends consulting the county Natural Resources Conservation Service office (<https://www.nrcs.usda.gov/wps/portal/nrcs/site/ga/home/>) or the Georgia Department of Natural Resources for advice regarding pond construction and avoiding or minimizing downstream impacts from sediment and toxicant input into aquatic systems.

Stream Gage Replacement

If a U.S. Geological Survey (USGS) stream gage will potentially be impacted by a proposed project, the Service recommends assessing what coordination or compensation may need to occur with the USGS related to the

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disturbance, moving, and recalibration of the gage structure prior to project implementation.

Conservation Lands in Georgia and within the Watershed:
Blanton Creek Wildlife Management Area

Callaway Stadium

Easement / Mitigation - U.S. Army Corps of Engineers / Troup County (Blue John Creek)

Grey Hill Park/Bartley Bldg

Harris Baseball Complex

LaGrange Rec Center

Shuford Softball Complex

Troup County Soccer Complex

U.S. Army Corps of Engineers - West Point Lake

West Point City Park

Whitesvill Road Track

William Griggs Rec Center

If your project crosses watershed boundaries, please use the appropriate guidance document for each portion of the project area.

Your agency or lead federal agency may have coordination procedures in place or determination keys for urban areas or activities with classified as having "no effect" on listed species. Please use those guidelines to help determine impacts to federally listed species.

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If you have questions relating to this guidance, please contact our office at gaes_assistance@fws.gov or 706-613-9493.

Data provided in this document is for guidance only and applies to portions of the watershed within the Georgia State Boundary. Please contact the appropriate FWS Field Office for coordination outside of the state. This document does not replace any requirements for consultation under the Endangered Species Act.

As written in 50 CFR § 402.16 of the Endangered Species Act, obligations under the Act must be reconsidered if a new species is listed or critical habitat is determined that may be affected by the project, or new information indicates that the project may affect listed species or critical habitat in a manner not previously considered. We will continue to update these documents to help project proponents meet their obligations under the Endangered Species Act.



MARK WILLIAMS
COMMISSIONER

RUSTY GARRISON
DIRECTOR

November 25, 2019

Connor Breedlove
Aquatic
Ecological Solutions Inc.
630 Colonial Park Dr
Suite 200
Roswell, GA 30075

Subject: Known occurrences of natural communities, plants and animals of highest priority conservation status on or near Langdale Dam Removal: ESI 20236-675 in Harris County, GA.

Dear Connor Breedlove:

This is in response to your request of October 30, 2019. The following Georgia natural heritage database element occurrences (EOs) were selected for the current site using the local HUC10 watershed for elements whose range distribution is limited by aquatic systems and within 3 miles for all other EOs:

Langdale Dam Removal: ESI 20236-675 Point 1 (Site Center: -85.165475, 32.815144 , WGS84)

- Cyclonaias infucata* (Sculptured Pigtoe) [HISTORIC] 2.4 miles N of site in Chattahoochee River Near West Point
- GA *Cyprinella callitaenia* (Bluestripe Shiner) 2.2 miles SE of site in Chattahoochee River Downstream of River View Dam Huc 10 - 0313000209
- GA *Cyprinella callitaenia* (Bluestripe Shiner) [HISTORIC] 6.6 miles N of site in Chattahoochee River Huc 10 - 0313000209
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 4.3 miles N of site in Oseligee Ck
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 1.7 miles NE of site in Flat Shoals Creek
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 3.4 miles N of site in Chattahoochee River
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 5.2 miles N of site in Chattahoochee River
- GA *Elliptio arctata* (Delicate Spike) 1.8 miles SE of site in Chattahoochee River
- Lampsilis binominata* (Lined Pocketbook) [HISTORIC] 3.8 miles N of site in Chattahoochee River Huc 10 - 0313000209
- Micropterus cataractae* (Shoal Bass) 1 mile SE of site in Chattahoochee River Huc 10 - 0313000209 Chattahoochee River Lower North 3

Moxostoma sp. 1 (Apalachicola Redhorse) 1.1 miles SE of site in Chattahoochee River Huc 10 - 0313000209 Chattahoochee River Lower North 3
GA *Notropis hypsilepis* (Highscale Shiner) 14.1 miles NE of site in Blue John Creek
GA *Notropis hypsilepis* (Highscale Shiner) 3.3 miles N of site in Long Cane Creek
GA *Notropis hypsilepis* (Highscale Shiner) 15.3 miles NE of site in Panther Creek, Tributary to Long Cane Creek

GA *Haliaeetus leucocephalus* (Bald Eagle) 1.9 miles N of site
GA *Haliaeetus leucocephalus* (Bald Eagle) 1.9 miles SE of site
GA *Hymenocallis coronaria* (Shoals Spiderlily) 1.7 miles SE of site
Blanton Creek Wildlife Management Area 2.1 miles SE of site
Flat Shoal Creek - Johnson 2.9 miles NE of site

Recommendations:

Please be aware that state protected species have been documented near the proposed project. For information about these species, including survey recommendations, please visit our webpage at <http://georgiawildlife.com/conservation/species-of-concern#rare-locations>.

If the applicant is willing to assume presence and implement provisions to protect *state listed* aquatic species identified during this review, it may not be necessary to complete any additional surveys for state listed aquatic species. Please refer to the Aquatic Survey Determination Protocol For State Listed Species in determining whether surveys are recommended. Although this document was prepared for use on GDOT projects, it may be applicable to other projects, as well. For any additional questions about state-listed fishes, mussels, crayfishes, snails, or aquatic insects, please contact Brett Albanese Brett.Albanese@dnr.ga.gov for projects in the Tennessee Drainage, Paula Marcinek Paula.Marcinek@dnr.ga.gov for projects in the Atlantic Slope Drainages (Savannah, Ogeechee, Altamaha, Satilla, and St. Mary's), Ani Popp Anakela.Popp@dnr.ga.gov for projects in the Coosa and Tallapoosa Drainages, and Matt Rowe Matthew.Rowe@dnr.ga.gov for projects in the Gulf Slope Drainages (Apalachicola-Chattahoochee-Flint, Aucilla, Ochlocknee, and Suwanee).

This project is unlikely to negatively impact rare species or habitats if best management practices are used. We are concerned about stream habitats that could be impacted by demolition activities. To protect aquatic habitats and water quality, we recommend that all machinery be kept out of streams during demolition. We urge you to use stringent erosion control practices during these activities. Further, we strongly advocate leaving vegetation intact within 100 feet of streams, which will reduce inputs of sediments, assist with maintaining riverbank integrity, and provide shade and habitat for aquatic species. We realize that some trees may have to be removed but recommend that shrubs and ground vegetation be left in place.

Records of nesting Bald Eagles (*Haliaeetus leucocephalus*) are within three miles of the proposed project. Although Bald Eagles are no longer considered an endangered species, they are still protected by the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act and the Georgia Endangered Species Act. These Acts continue to protect bald eagles from potentially harmful human activities. For more information on how to prevent impacts

to bald eagles that could violate the Eagle Act, download the National Bald Eagle Management Guidelines:

<http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Wildlife Conservation Section comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Wildlife Conservation Section can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of highest priority species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (<http://georgiawildlife.com/conservation/species-of-concern#rare-locations>) or by contacting our office. If we can be of further assistance, please let us know.



Laci Pattavina, Wildlife Biologist, Environmental Reviews
laci.pattavina@dnr.ga.gov, (706) 557-3228

Data Available on the Wildlife Conservation Section Website

- Georgia protected plant and animal profiles are available on our website. These accounts cover basics like descriptions and life history, as well as threats, management recommendations and conservation status. Visit <http://georgiawildlife.com/conservation/species-of-concern#rare-locations>.
- Rare species and natural community information can be viewed by Quarter Quad, County and HUC8 Watershed. To access this information, please visit our GA Rare Species and Natural Community Information page at: <http://georgiabiodiversity.org/>
- Downloadable files of rare species and natural community data by quarter quad and county are also available. They can be downloaded from: <http://georgiabiodiversity.org/natels/natural-element-locations.html>



MARK WILLIAMS
COMMISSIONER

RUSTY GARRISON
DIRECTOR

November 25, 2019

Connor Breedlove
Ecologist
ESI
630 Colonial Park Dr
Suite 200
Roswell, GA 30075

Subject: Known occurrences of natural communities, plants and animals of highest priority conservation status on or near Riverview Dam Removal ESI:20236-675 in Harris County, GA.

Dear Connor Breedlove:

This is in response to your request of October 30, 2019. The following Georgia natural heritage database element occurrences (EOs) were selected for the current site using the local HUC10 watershed for elements whose range distribution is limited by aquatic systems and within 3 miles for all other EOs:

Riverview Dam Removal ESI:20236-675 Point 1 (Site Center: -85.142788, 32.792815 , WGS84)

- Cyclonaias infucata* (Sculptured Pigtoe) [HISTORIC] 4.4 miles N of site in Chattahoochee River Near West Point
- GA *Cyprinella callitaenia* (Bluestripe Shiner) [HISTORIC] 8.6 miles N of site in Chattahoochee River Huc 10 - 0313000209
- GA *Cyprinella callitaenia* (Bluestripe Shiner) 0.3 mile S of site in Chattahoochee River Downstream of River View Dam Huc 10 - 0313000209
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 6.4 miles N of site in Oseligee Creek
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 2.1 miles NE of site in Flat Shoals Creek
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 5.4 miles N of site in Chattahoochee River
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 7.2 miles N of site in Chattahoochee River
- GA ***Elliptio arctata* (Delicate Spike) in the Chattahoochee River near the subject project**
- Lampsilis binominata* (Lined Pocketbook) [HISTORIC] 5.9 miles N of site in Chattahoochee River Huc 10 – 0313000209

Micropterus cataractae (Shoal Bass) 0.5 mile NW of site in Chattahoochee River
Huc 10 - 0313000209 Chattahoochee River Lower North 3
Moxostoma sp. 1 (Apalachicola Redhorse) 0.5 mile NW of site in Chattahoochee
River Huc 10 - 0313000209 Chattahoochee River Lower North 3
GA *Notropis hypsilepis* (Highscale Shiner) 15.1 miles N of site in Blue John Creek
GA *Notropis hypsilepis* (Highscale Shiner) 16 miles NE of site in Panther Creek,
Tributary to Long Cane Creek
GA *Notropis hypsilepis* (Highscale Shiner) 5.1 miles N of site in Long Cane Creek

Baptisia megacarpa (Bigpod Wild Indigo) 1.8 miles S of site
GA *Croomia pauciflora* (Croomia) 2 miles S of site
GA *Haliaeetus leucocephalus* (Bald Eagle) 0.3 mile NE of site
GA *Haliaeetus leucocephalus* (Bald Eagle) 1.6 miles SE of site
GA *Hymenocallis coronaria* (Shoals Spiderlily) on site, 32.793891, -85.141659
US *Trillium reliquum* (Relict Trillium) 2.1 miles SE of site
Blanton Creek Wildlife Management Area 0.3 mile SE of site
Blanton Creek Wildlife Management Area 1.8 miles S of site

Recommendations:

A federally listed species has been documented near the proposed project. To minimize potential impacts to federally listed species, we recommend consultation with the United States Fish and Wildlife Service. Please contact the following: In North Georgia, email Robin Goodloe at GAES_Assistance@fws.gov. In Southeast Georgia, call the Coastal Georgia Office at 912-832-8739. In Southwest Georgia, please contact John Doresky at 706-544-6030 or John_Doresky@fws.gov.

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This project is unlikely to negatively impact rare species or habitats if best management practices are used. We are concerned about stream habitats that could be impacted by demolition activities. To protect aquatic habitats and water quality, we recommend that all machinery be kept out of streams during demolition. We urge you to use stringent erosion

control practices during these activities. Further, we strongly advocate leaving vegetation intact within 100 feet of streams, which will reduce inputs of sediments, assist with maintaining riverbank integrity, and provide shade and habitat for aquatic species. We realize that some trees may have to be removed but recommend that shrubs and ground vegetation be left in place.

Records of nesting Bald Eagles (*Haliaeetus leucocephalus*) are within three miles of the proposed project. Although Bald Eagles are no longer considered an endangered species, they are still protected by the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act and the Georgia Endangered Species Act. These Acts continue to protect bald eagles from potentially harmful human activities. For more information on how to prevent impacts to bald eagles that could violate the Eagle Act, download the National Bald Eagle Management Guidelines:

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Laci Pattavina, Wildlife Biologist, Environmental Reviews
laci.pattavina@dnr.ga.gov, (706) 557-3228

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MARK WILLIAMS
COMMISSIONER

RUSTY GARRISON
DIRECTOR

November 25, 2019

Connor Breedlove
Ecologist
Ecological Solutions Inc.
630 Colonial Park Dr
Suite 200
Roswell, GA 30075

Subject: Known occurrences of natural communities, plants and animals of highest priority conservation status on or near Crow Hop Dam Removal ESI: 20236-675 in Harris County, GA.

Dear Connor Breedlove:

This is in response to your request of October 30, 2019. The following Georgia natural heritage database element occurrences (EOs) were selected for the current site using the local HUC10 watershed for elements whose range distribution is limited by aquatic systems and within 3 miles for all other EOs:

Crow Hop Dam Removal ESI: 20236-675 Point 1 (Site Center: -85.152698, 32.799872 , WGS84)

- Cyclonaias infucata* (Sculptured Pigtoe) [HISTORIC] 3.7 miles N of site in Chattahoochee River Near West Point
- GA *Cyprinella callitaenia* (Bluestripe Shiner) [HISTORIC] 7.9 miles N of site in Chattahoochee River Huc 10 - 0313000209
- GA *Cyprinella callitaenia* (Bluestripe Shiner) 1 mile SE of site in Chattahoochee River Downstream of Riverview Dam Huc 10 - 0313000209
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 5.7 miles N of site in Oseligee Creek
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 2 miles NE of site in Flat Shoals Creek
- Elimia boykiniana* (Flaxen Elimia) [HISTORIC] 4.7 miles N of site in Chattahoochee River
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***Micropterus cataractae* (Shoal Bass) in the Chattahoochee River near the subject project**

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Tributary to Long Cane Creek

GA *Notropis hypsilepis* (Highscale Shiner) 4.4 miles N of site in Long Cane Creek

Baptisia megacarpa (Bigpod Wild Indigo) 2.4 miles SE of site

GA *Croomia pauciflora* (Croomia) 2.7 miles SE of site

GA *Haliaeetus leucocephalus* (Bald Eagle) 0.9 mile E of site

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GA *Hymenocallis coronaria* (Shoals Spiderlily) 0.6 mile SE of site

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Blanton Creek Wildlife Management Area 1 miles SE of site

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Appendix III: Photo Vouchers

Freshwater Mussel Survey Report
Langdale and Riverview Hydroelectric Projects
FERC Project Numbers 2341 and 2350
September 2020

Non-target Species Vouchers



southern rainbow (*Villosa vibex*)



Gulf spike (*Elliptio pullata*)



Asian clam (*Corbicula fluminea*)



gulf spike (left), southern rainbow (top right), Asian clam (bottom right)

Appendix IV: Field Data

Freshwater Mussel Survey Report
Langdale and Riverview Hydroelectric Projects
FERC Project Numbers 2341 and 2350
September 2020

ES # 20236-675

LANGDALE DAM

HARRIS CO., GA

CHAMBERS CO., AL

PAGE 1 of 9

Site Number: _____ Field Number: _____ Time Beg: 8:00 AM Date: 6/16/20
 Watershed/Drainage: CHATT. NORTH S End: 4:00 PM State: _____
 Waterbody: CHATTAHOOCHEE R. Latitude: _____ Long: _____
 Location: LANGDALE DAM Stream Order: _____ Stream Type: _____
 Gage Station: 02339400 WEST POINT Surveyor(s): CB, AC, MN, DS, DW

Determining PSA Distance upstream: 300 m **Survey Technique** Tactile Only Tactile With Snorkel
 Distance downstream: 300-450 m Tactile With SCUBA

Instream Features Quantitative Please specify all units of measurement
 % Canopy Cover: _____ Wetted Wjth: 850' MP
 Surface Velocity (at thalweg): 675 cfs 500 DOWN
 Water Depth (at thalweg): 2'-15'
 Bank Height (rt/lr): _____ Bank Angle(rt/lr): _____

Water Quality
 Water Temp: 23.9°C
 Dissolved Oxygen: 5.38 mg/L
 Conductivity 0.045 mS/cm
 pH 5.36 Other: TWPB, O.P.
 303d Listed: yes no
 Water Clarity Clear
 Slightly turbid
 Turbid
 Opaque

Instream Features Qualitative
 Channel Alteration: No Yes
 Describe: _____
 Shoring Structures: None Limerock Gabion
 Concrete Rip-rap Other: _____ Extent: _____
 Substrate composition (% est.): Gravel _____ Silt _____ Clay 10
 Clay Marl _____ Fine sand _____ 40 Coarse s. _____ Medium s. _____
 Boulder 40 Bedrock _____ Cobble 10

Designated Use:
 Violated Criteria:
 Heavy Rain in past 7 days: Yes No 1.1"
 Air Temperature: 85 Est. Act.
 Survey Weather Conditions: Scattered showers
 Heavy rain Clear/sunny
 Steady rain % Cloud cover _____

Channel Stability (Check one box for each column):

	Deposition/Aggradation	Incision/Degradation	Impoundments:
Excellent	Large, fresh deposits absent High number of deep pools	No mass-wasting or significant erosion of banks Channel slightly entrenched <input type="checkbox"/> High number of deep pools	<input type="checkbox"/> None <input checked="" type="checkbox"/> yes (Describe): LOW WATER DAMS
Good	Large, fresh deposits uncommon Moderate number of deep pools	Some bank erosion apparent, no mass wasting Channel slightly-moderately entrenched <input type="checkbox"/> Moderate number of deep pools	Fish Passage: <input checked="" type="checkbox"/> Blocked? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no Fish Presence: <input type="checkbox"/> Absent <input type="checkbox"/> Rare <input checked="" type="checkbox"/> Common <input type="checkbox"/> Abundant
Fair	Large, fresh deposits common Low-moderate number of deep pools	Active bank erosion, potential mass-wasting Channel moderately-highly entrenched <input type="checkbox"/> Low-moderate number of deep pools	Describe: DAM
Poor	Large, fresh deposits very common Few, if any, deep pools	Active bank erosion, frequent mass-wasting Channel moderately-highly entrenched <input type="checkbox"/> Few, if any, deep pools	Woody Material: <input checked="" type="checkbox"/> None/infreq. <input type="checkbox"/> Moderate <input type="checkbox"/> Extensive

Riparian Features Quantitative

Rt* Buffer width(ft):	Landuse Characterization:	(100 feet to either side of the stream)	
		Rt Bk	Lt Bk
<input type="checkbox"/> 10-25	Natural Forest	90	100
<input type="checkbox"/> 25-75	Silviculture		
<input type="checkbox"/> 78-150	Pasture		
<input type="checkbox"/> 150+	Agricultural		
<input type="checkbox"/> 10-25	Residential		
<input checked="" type="checkbox"/> 25-75	Commercial		
<input type="checkbox"/> 78-150	Industrial	10	
<input type="checkbox"/> 150+			

Site Road Crossing
 Road Type: Paved Unpaved
 Name (if known): N/A
 Crossing Type: Pipe culvert Box culvert
 Bridge Paved box culvert N/A

Riparian Features Qual. Local Non-Point Source Pollution Potential:
 No evidence Slight
 Moderate potential Obvious sources
 Livestock access
 Describe: _____

Notes

Floodplain Access:
 None Rt* Lt*
 Partial
 Full

Bank Erosion:
 Non-eroding
 Active Erosion
 Mass-wasting

VERY SLIGHT

ES # 20236-675

LANGDALE DAM

Mussel Measurement Data Sheet

page 2 of 9

Field

Number:

Date:

6/16/20

County: HARRIS, GA & CHAMBERS, AL Locality: CHATT. RIVER NEAR

Surveyors: CB, AC, MN, DS, DW VALLEY, AL

Species Name	Length (mm)	Width* (mm)	Height* (mm)	Sex* (m/f/u)**	Comments*
<u>ABOVE DAM</u>					
VILLOSA VERREX				RELICS V. VERREX	PIECES OF WASHBOARDS?
ELLIPTICO pullata					
CORBICULA	MILLIONS				
<u>BELOW DAM</u>					
CORBICULA	TNTC				

*= Optional

**= Male, female, undetermined

ES# 20236-675

6/16/20

LANGDALS DAM
HARRELL CO., GA &
CHAMBERS CO., AL

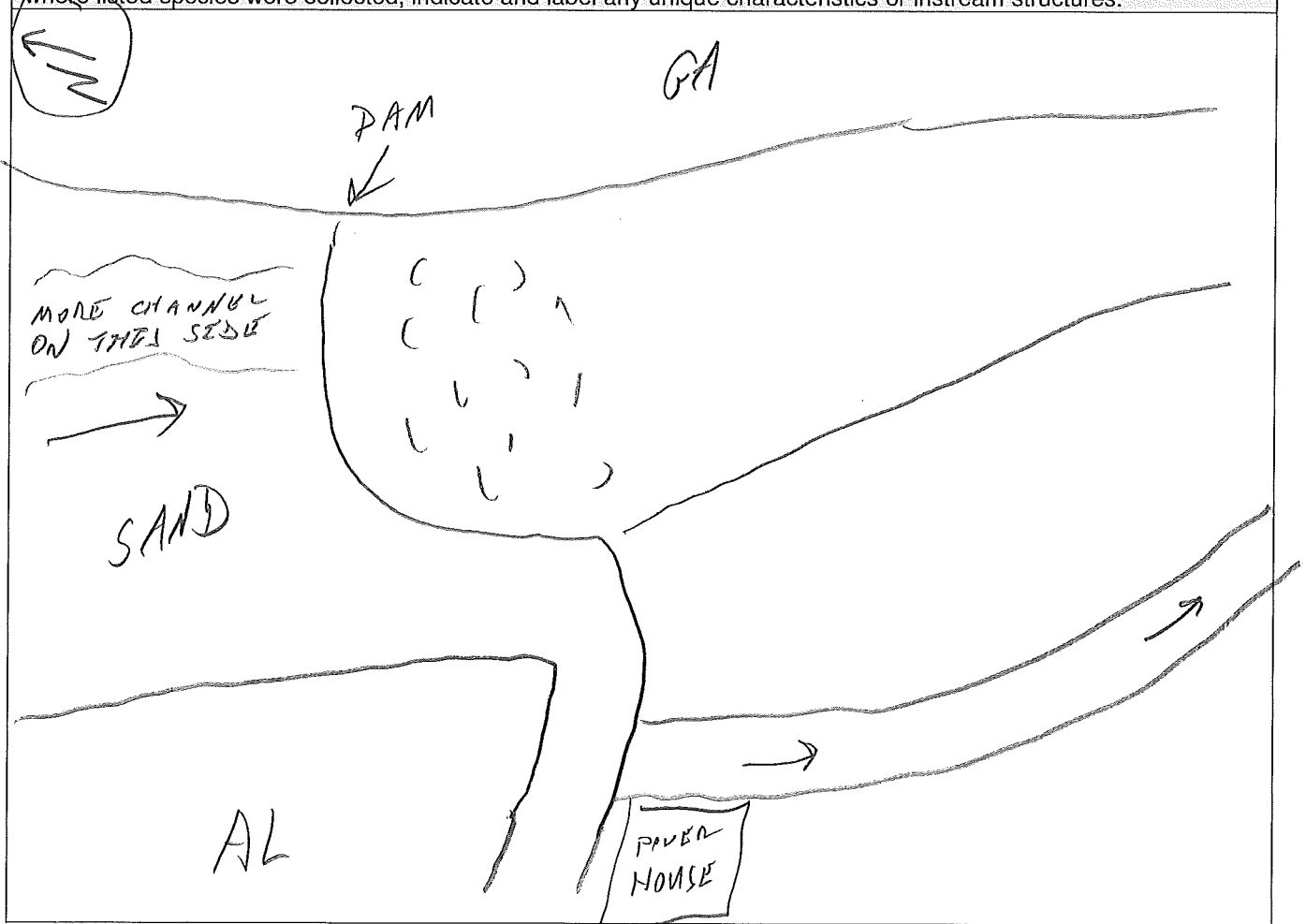
CR, AC, MN, DS, DW PAGE 3 OF 9

List of other aquatic species observed, including invasive species, and their abundance:

FISH
CRAYFISH

Explain/describe any deviations from protocol:

Include sketch map, using back of page if necessary. Include north arrow, flow directions, label any locations where listed species were collected, indicate and label any unique characteristics or instream structures.



() - SHOALS

ES # 20236-675

CROW HOP DAM

HARDEE CO., GA
CHAMBERS CO., AL

PAGE 4 OF 9

Site Number: _____ Field Number: _____ Time Beg: 8:22 AM Date: 6/19/20
 Watershed/Drainage: CHATT NORTH 3 End: 3:45 PM State: _____
 Waterbody: CHATTahoochee Latitude: _____ Long: _____
 Location: CROW HOP DAM Stream Order: _____ Stream Type: _____
 Gage Station: 02339400 WEST POINT Surveyor(s): CB, AC, DS, DW

Determining PSA Distance upstream: 180-200 m **Survey Technique** Tactile Only Tactile With Snorkel
 Distance downstream: 300 m Tactile With SCUBA

Instream Features Quantitative	Water Quality
Please specify all units of measurement % Canopy Cover: _____ Wetted Width: <u>~500'</u> Surface Velocity (at thalweg): <u>675 cfs</u> Water Depth (at thalweg): <u>1'-1.5'</u> Bank Height (rt/lt*): _____ Bank Angle (rt/lt*): _____	Water Temp: <u>23.09C</u> Dissolved Oxygen: <u>7.97 mg/L</u> Conductivity: <u>0.047 mS/cm</u> pH: <u>6.12</u> Other: <u>TURB 0.0</u> 303d Listed: <input type="checkbox"/> yes <input checked="" type="checkbox"/> no
Instream Features Qualitative	Water Quality
Channel Alteration: <input type="checkbox"/> No <input type="checkbox"/> Yes Describe: _____ Shoring Structures: <input type="checkbox"/> None <input type="checkbox"/> Limerock <input type="checkbox"/> Gabion <input type="checkbox"/> Concrete <input type="checkbox"/> Rip-rap <input type="checkbox"/> Other: _____ Extent: _____	Water Clarity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque
Substrate composition (% est.): Gravel _____ Silt <input checked="" type="checkbox"/> Clay <u>10</u> Clay Marl _____ Fine sand _____ Coarse s. <u>40</u> Medium s. _____ Boulder <u>40</u> Bedrock _____ Cobble <u>10</u>	Designated Use: Violated Criteria: Heavy Rain in past 7 days: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <u>1.1"</u> Air Temperature: <u>85</u> Est. <input type="checkbox"/> Act. <input type="checkbox"/> Survey Weather Conditions: Scattered showers <input type="checkbox"/> Heavy rain <input type="checkbox"/> Clear/sunny <input checked="" type="checkbox"/> Steady rain <input type="checkbox"/> % Cloud cover _____

Channel Stability (Check one box for each column):

	Deposition/Aggradation	Incision/Degradation	Impoundments:
Excellent	Large, fresh deposits <u>absent</u> High number of deep pools	No mass-wasting or significant erosion of banks Channel slightly entrenched <input type="checkbox"/> High number of deep pools	<input type="checkbox"/> None <input checked="" type="checkbox"/> yes (Describe): <u>DAM</u>
Good	Large, fresh deposits <u>uncommon</u> Moderate number of deep pools	Some bank erosion apparent, no mass wasting Channel slightly-moderately entrenched <input type="checkbox"/> Moderate number of deep pools	Fish Passage: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Blocked? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Describe: _____
Fair	Large, fresh deposits <u>common</u> Low-moderate number of deep pools	Active bank erosion, potential mass-wasting Channel moderately-highly entrenched <input type="checkbox"/> Low-moderate number of deep pools	Fish Presence: <input type="checkbox"/> Absent <input type="checkbox"/> Rare <input checked="" type="checkbox"/> Common <input type="checkbox"/> Abundant
Poor	Large, fresh deposits <u>very common</u> Few, if any, deep pools	Active bank erosion, frequent mass-wasting Channel moderately-highly entrenched <input type="checkbox"/> Few, if any, deep pools	Woody Material: <input type="checkbox"/> None/infreq. <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Extensive

Riparian Features Quantitative	Site Road Crossing																																
Rt* Buffer width(ft): <input type="checkbox"/> 10-25 <input type="checkbox"/> 25-75 <input type="checkbox"/> 78-150 <input type="checkbox"/> 150+ Lt* Buffer width(ft): <input type="checkbox"/> 10-25 <input type="checkbox"/> 25-75 <input type="checkbox"/> 78-150 <input type="checkbox"/> 150+	Road Type: <input type="checkbox"/> Paved <input type="checkbox"/> Unpaved Name (if known): _____ Crossing Type: <input type="checkbox"/> Pipe culvert <input type="checkbox"/> Box culvert <input checked="" type="checkbox"/> Bridge <input type="checkbox"/> Paved box culvert																																
Landuse Characterization: (100 feet to either side of the stream)	Riparian Features Qual. Local Non-Point Source Pollution Potential: <input type="checkbox"/> No evidence <input type="checkbox"/> Slight <input checked="" type="checkbox"/> Moderate potential <input type="checkbox"/> Obvious sources <input type="checkbox"/> Livestock access Describe: <u>WATER TREATMENT PLANT</u>																																
<table border="1"> <thead> <tr> <th></th> <th>Rt Bk</th> <th>Lt Bk</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Natural Forest</td> <td><u>80</u></td> <td><u>100</u></td> <td>%</td> </tr> <tr> <td>Silviculture</td> <td></td> <td></td> <td>%</td> </tr> <tr> <td>Pasture</td> <td></td> <td></td> <td>%</td> </tr> <tr> <td>Agricultural</td> <td></td> <td></td> <td>%</td> </tr> <tr> <td>Residential</td> <td><u>10</u></td> <td></td> <td>%</td> </tr> <tr> <td>Commercial</td> <td></td> <td></td> <td>%</td> </tr> <tr> <td>Industrial</td> <td><u>10</u></td> <td></td> <td>%</td> </tr> </tbody> </table>		Rt Bk	Lt Bk	%	Natural Forest	<u>80</u>	<u>100</u>	%	Silviculture			%	Pasture			%	Agricultural			%	Residential	<u>10</u>		%	Commercial			%	Industrial	<u>10</u>		%	Floodplain Access: None <input type="checkbox"/> Partial <input checked="" type="checkbox"/> Full <input type="checkbox"/> Rt* <input type="checkbox"/> Lt* <input type="checkbox"/> Bank Erosion: <input type="checkbox"/> Non-eroding <input checked="" type="checkbox"/> Active Erosion <input type="checkbox"/> Mass-wasting
	Rt Bk	Lt Bk	%																														
Natural Forest	<u>80</u>	<u>100</u>	%																														
Silviculture			%																														
Pasture			%																														
Agricultural			%																														
Residential	<u>10</u>		%																														
Commercial			%																														
Industrial	<u>10</u>		%																														

Notes

Notes section with handwritten text: SLIGHT

ES # 20236-695

CROW HOP DAM

Mussel Measurement Data Sheet

page 5 of 9

Field

Number:

Date:

6/18/20

County: HARRIS GA & CHAMBERS AL

Locality: CHATT. R., NEAR

Surveyors: CB, AC, DS, DW

VALLEY, AL

Species Name	Length (mm)	Width* (mm)	Height* (mm)	Sex* (m/f/u)**	Comments*
<u>ABOVE DAM</u>					
V. VEBEX III					VEBEX RECESS
CONBECULA		TNTC			
<u>BELOW DAM</u>					
V. VEBEX II					
RIGHT BELOW DAM					
CONBECULA		TNTC			

*= Optional

**= Male, female, undetermined

ES # 20236-675
6/17/20

CROW HOP DAM
HARDEE CO. GA
CHAMBERS CO. AL

CB, AC, DS, DW

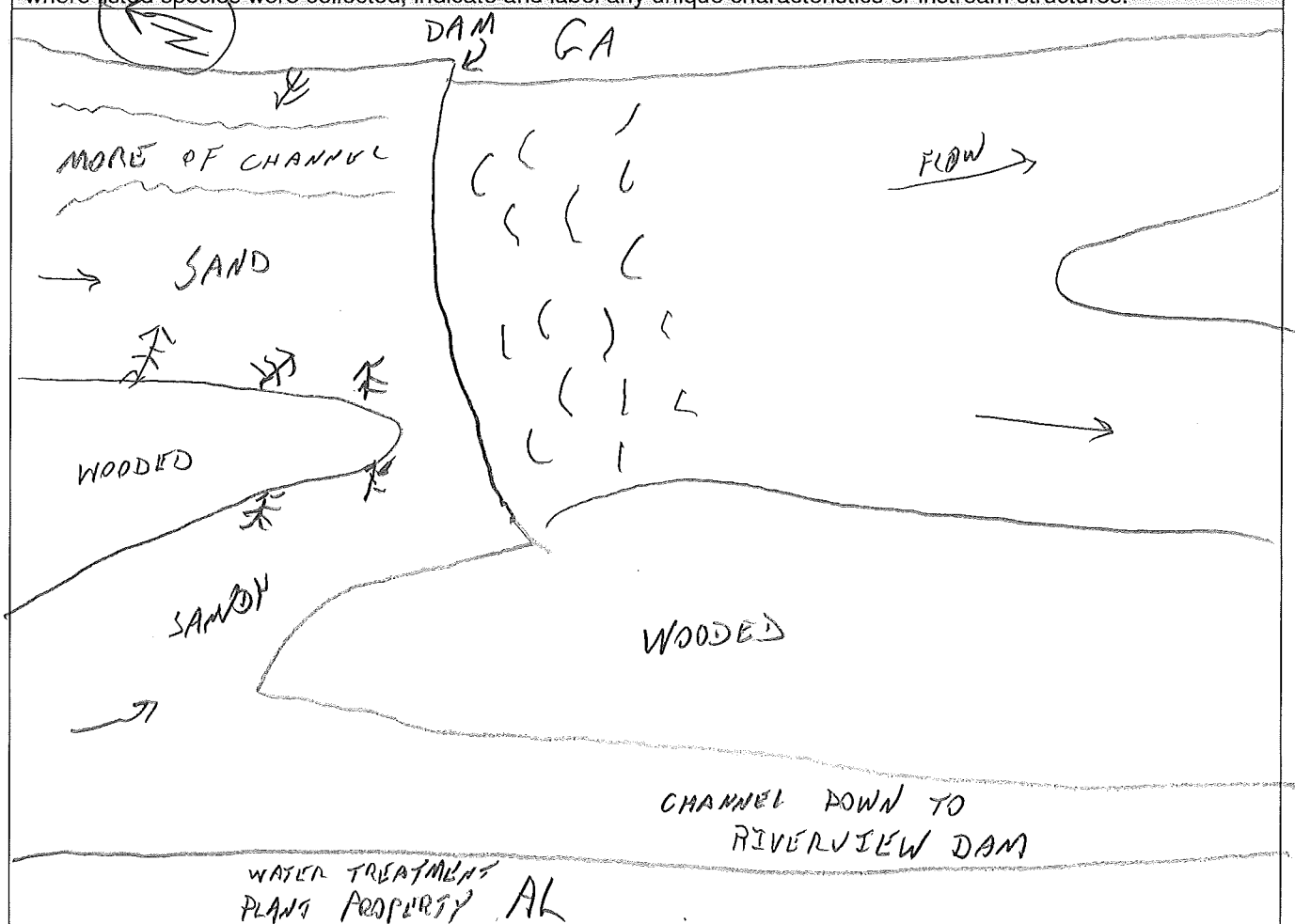
PAGE 6 OF 9

List of other aquatic species observed, including invasive species, and their abundance:

DARTERS, SHENONS, CRAYFISH

Explain/describe any deviations from protocol:

Include sketch map, using back of page if necessary. Include north arrow, flow directions, label any locations where listed species were collected, indicate and label any unique characteristics or instream structures.



SHOALS
WOODY DEBRIS

ES# 20236-675

RIVERVIEW DAM

HARRIS CO. GA
CHAMBERLAIN CO. AL

PAGE
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Site Number: _____ Field Number: _____ Time Beg: 9:00 AM Date: 6/18/20
 Watershed/Drainage: CHATT. NORTH 3 End: 3:00 PM State: _____
 Waterbody: CHATTANOOGUCHIE RIVER Latitude: _____ Long: _____
 Location: RIVERVIEW DAM Stream Order: _____ Stream Type: _____
 Gage Station: 0233 94-PA WEST POINT Surveyor(s): CB, AC, MN, DS, DW

Determining PSA Distance upstream: 200 m **Survey Technique** Tactile Only Tactile With Snorkel
 Distance downstream: _____ Tactile With SCUBA

Instream Features Quantitative	Water Quality
Please specify all units of measurement	Water Temp: <u>23.08C</u>
% Canopy Cover: _____ Wetted Width: <u>100'-300'</u>	Dissolved Oxygen: <u>9.89 mg/L</u>
Surface Velocity (at thalweg): <u>6.75 cfs</u>	Conductivity <u>0.045</u>
Water Depth (at thalweg): <u>12'</u>	pH <u>5.89</u> Other: <u>MREB 0.0</u>
Bank Height (rt/Lt*): _____ Bank Angle(rt/Lt*): _____	303d Listed: <input type="checkbox"/> yes <input checked="" type="checkbox"/> no
	Water Clarity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque

Instream Features Qualitative

Channel Alteration: No Yes Describe: _____

Shoring Structures: None Limerock Gabion
 Concrete Rip-rap Other: _____ Extent: _____

Substrate composition (% est.): Gravel _____ Silt Clay 10
 Clay Marl _____ Fine sand _____ Coarse s. 30 Medium s. _____
 Boulder 60 Bedrock _____ Cobble 10

Designated Use: _____ Violated Criteria: _____

Heavy Rain in past 7 days: Yes No Air Temperature: _____ Est. Act. 1.1"

Survey Weather Conditions: Scattered showers
 Heavy rain Clear/sunny
 Steady rain % Cloud cover _____

Channel Stability (Check one box for each column):

	Deposition/Aggradation	Incision/Degradation	Impoundments:
Excellent	Large, fresh deposits <i>absent</i> High number of deep pools	No mass-wasting or significant erosion of banks Channel slightly entrenched <input type="checkbox"/> High number of deep pools	<input type="checkbox"/> None <input checked="" type="checkbox"/> yes (Describe): <u>DAM</u>
Good	Large, fresh deposits <i>uncommon</i> Moderate number of deep pools	Some bank erosion apparent, no mass wasting Channel slightly-moderately entrenched <input type="checkbox"/> Moderate number of deep pools	Fish Passage: <input checked="" type="checkbox"/> Blocked? <input type="checkbox"/> yes <input type="checkbox"/> no Fish Presence: <input type="checkbox"/> Absent <input type="checkbox"/> Rare <input checked="" type="checkbox"/> Common <input type="checkbox"/> Abundant
Fair	Large, fresh deposits <i>common</i> Low-moderate number of deep pools	Active bank erosion, potential mass-wasting Channel moderately-highly entrenched <input checked="" type="checkbox"/> Low-moderate number of deep pools	<u>DAM</u> Woody Material: <input checked="" type="checkbox"/> None/infreq. <input type="checkbox"/> Moderate <input type="checkbox"/> Extensive
Poor	Large, fresh deposits <i>very common</i> Few, if any, deep pools	Active bank erosion, frequent mass-wasting Channel moderately-highly entrenched <input type="checkbox"/> Few, if any, deep pools	

Riparian Features Quantitative

Rt* Buffer width(ft): 10-25 25-75 78-150 150+

Lt* Buffer width(ft): 10-25 25-75 78-150 150+

Landuse Characterization: (100 feet to either side of the stream)

	Rt Bk	Lt Bk	%
Natural Forest	<u>90</u>	<u>100</u>	%
Silviculture			%
Pasture			%
Agricultural			%
Residential			%
Commercial			%
Industrial	<u>10</u>		%

Site Road Crossing

Road Type: Paved Unpaved N/A
 Name (if known): _____
 Crossing Type: Pipe culvert Box culvert Bridge Paved box culvert N/A

Riparian Features Qual.

Local Non-Point Source Pollution Potential:
 No evidence Slight Moderate potential Obvious sources
 Livestock access

Describe: _____

Notes

Floodplain Access:

	Rt*	Lt*
None	<input type="checkbox"/>	<input type="checkbox"/>
Partial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Full	<input type="checkbox"/>	<input type="checkbox"/>

Bank Erosion: Non-eroding Active Erosion Mass-wasting

ES# 20216-675

REVIEWER DAM

Mussel Measurement Data Sheet

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Field Number:

Date: 6/18/20

County: HARRIS GA & CHAMBERS, AL Locality: CHATTAHOOCHEE RIVER

Surveyors: CB, AC, MN, DS, DW NEAR VALLEY, AL

Species Name	Length (mm)	Width* (mm)	Height* (mm)	Sex* (m/f/u)**	Comments*
<u>ABOVE DAM</u>					
ELLIPTZO PALLATA					VELLOSA RUBRA
VELLOSA VERBEX					
CORBICULA		TNTC			
<u>BELOW DAM</u>					
CORBICULA		TNTC			

*= Optional
**= Male, female, undetermined

ES# 20236-675

6/18/20

RIVANZOW DAM

HARZES Co. GA

CHAMBERS Co. AL

CB, AC, MN, DL, DW

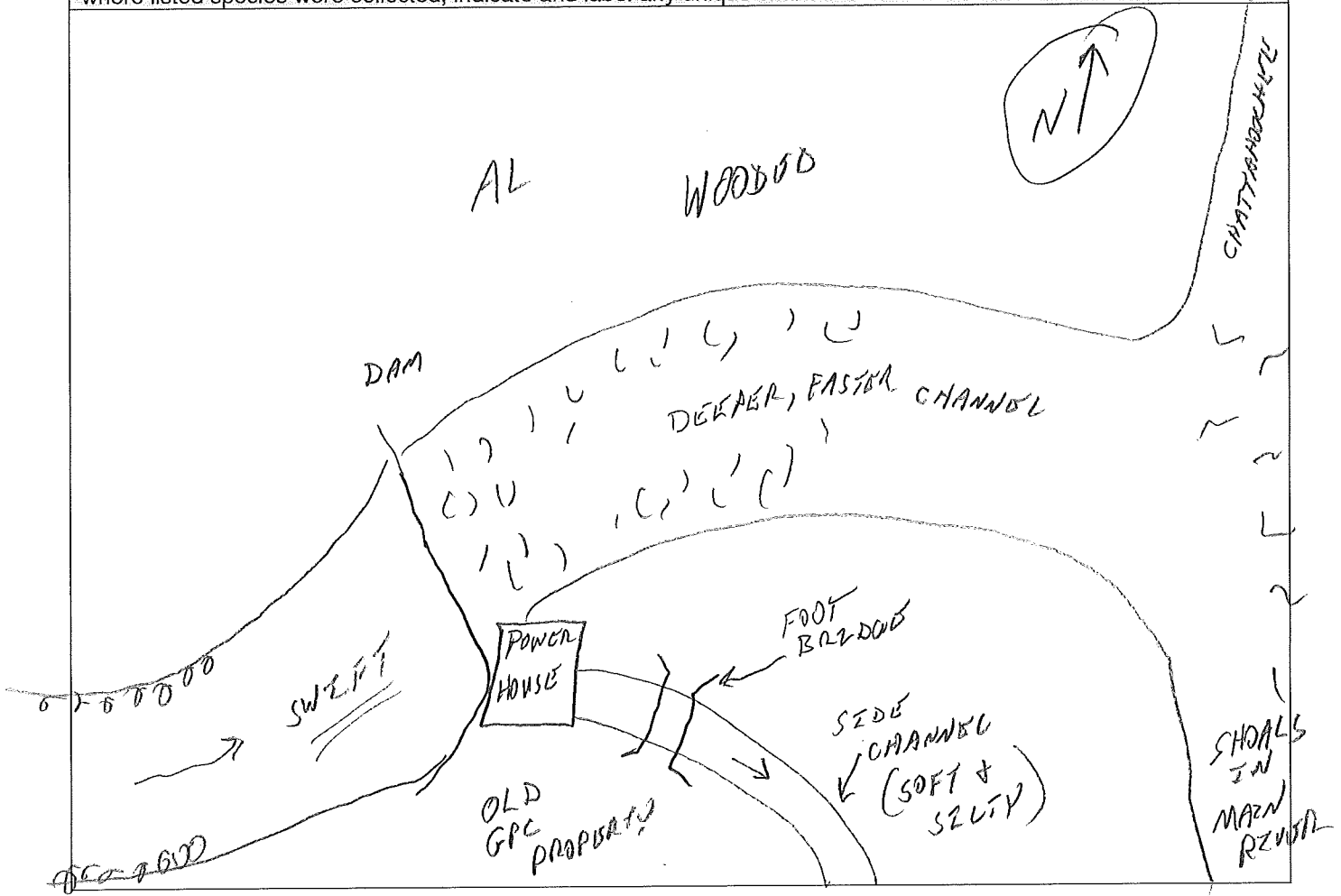
PAGE 9 of 9

List of other aquatic species observed, including invasive species, and their abundance:

LOTS OF CRAYFISH
LARGE CATFISH BELOW DAM

Explain/describe any deviations from protocol:

Include sketch map, using back of page if necessary. Include north arrow, flow directions, label any locations where listed species were collected, indicate and label any unique characteristics or instream structures.



oooo - REP-RAP

oo - SHOALS

Appendix V: Supporting Documentation

Freshwater Mussel Survey Report
Langdale and Riverview Hydroelectric Projects
FERC Project Numbers 2341 and 2350
September 2020

2014 Integrated 305(b)/303(d) List

Streams - Supporting Designated Uses

Reach Name/ ID #/ Data Source	Reach Location/ County	River Basin/ Use	Criterion Violated	Potential Causes	Extent	Category	Priority	Notes
Chattahoochee River R031300020906 1	West Point Dam to Johnson Island Troup/ Harris County	Chattahoochee Drinking Water/ Fishing			13 miles	1		TMDL completed DO 2000.
Chattahoochee River R031300030605 1,10,37	Chattahoochee/Stewart Co. line to Hannahatchee Creek Stewart County	Chattahoochee Fishing			10 miles	1		TMDL completed FC 2008.
Chattahoochee River R031300030902 10	Hannahatchee Creek to Hatchechubbee Creek (Alabama) Stewart County	Chattahoochee Fishing			3 miles	1		
Chattahoochee River R031300040705 1	Lake Andrews Lock & Dam to U.S. Hwy. 84 Early/ Seminole County	Chattahoochee Fishing			11 miles	1		
Chattahoochee River R031300040801 1,10	U.S. Hwy. 84 to Lake Seminole Early/ Seminole County	Chattahoochee Recreation/ Fishing			17 miles	1		
Chestatee River R031300010511 1	Boggs Creek to Tate Creek Lumpkin County	Chattahoochee Fishing			6 miles	1		
Colochee/Frog Bottom Creek R031300030702 4	Hightower Branch to Hannahatchee Creek Stewart County	Chattahoochee Fishing			5 miles	1		

Langdale and Riverview Projects - Public Comment Matrix

Comment by Lanny Bledsoe (Landowner) Accession No. 20201104-0020

I have a personal interest in this matter as I am the largest landowner directly affected by the destruction of the three dams at Langdale, Crow Hop, and River View. I own all of the islands in the river between Langdale and River View and they will be adversely affected if the dams are gone, as will all the shoreline.

- The destruction will be caused by the overwhelming flood of water turned loose each day when West Point dam generates. The water in the Langdale/River View area rises several feet quickly with great force and through the years we have seen the effect it has, even with the dams in place. It is my opinion that the dams now act as a protecting buffer and keep the water hitting the islands with full force. However, two islands have already been washed away and are gone.
- Some years back, the water force had washed to bank away in the bend above the River View dam and a portion of Riverdale Mill was in danger of falling into the river. I was manager of the mill at that time and a meeting was held with Corp of Engineers to review the situation. Alabama Sector Howard Heflin was in the meeting and after reviewing the evidence, Senator Heflin directed the Corp to line the bank with riprap to protect it. According to tests Georgia Power has done, they are concerned about this same area with the dams down and plan to protect it.
- Based on the latest Georgia Power studies just released, at minimum flow level, when West Point is not generating, only canoes and kayaks can travel on the river. These dams have been in place for a hundred years, the ponds behind the dams is a great place to boat, fish, and have recreation. The city of Valley should be greatly concerned about this, they're going to lose an asset.
- I've heard a lot of talk about concern for Shoal Bass as a reason to take the dams down. The state of Georgia showed little concern for any fish when they put striped bass in the river. Years ago, we could catch crappie and shad by the thousands at River View dam. Not they are gone, wiped out by the striped bass. Striped bass are not a problem above the dams now, but they will be with the dams gone.
- The River View powerhouse was built across an arm of the river. One side of the building was on the Alabama bank and the other side on Hodge Island. The tail race from the powerhouse flowed as it had before the powerhouse was built. Georgia Power's plans are to take the powerhouse down and block the flow of the river. Hodge Island, which I own, will not be an island but will be joined by land to the Alabama side. This will change the original flow of the river and they should not have the power to do this. They used the powerhouse for a hundred years and now want to block the river.
- I grew up in River View 84 years ago. The river has been a wonderful place for everyone to enjoy. It has been an asset here for all of my life. Now it will change. Georgia Power used these dams all these years for their business and the generation of electricity. They no longer have any use for the dam, and their plan would change what has been in place, for all of these years. This should not happen.

Georgia Power's Response

Georgia Power will evaluate potential erosion on the privately owned islands as part of removal process and post removal monitoring and would, if needed, propose to provide some protection potentially using rock from the dam removal. The Decommissioning Plan (Section 4) specifically addresses bank stabilization in the Riverview headrace channel.

The Applicant Prepared Environmental Assessment describes the change in river navigability of various vessels in Section 11. To address public access to the river, Georgia Power is proposing to extend three existing public boat ramps into the river to at least two feet of water depth at the new water surface elevation (measured at West Point minimum flow) following dam removal and river stabilization (see Section 11 of the APEA). Additionally, as discussed in the Recreation Section 11, there are nearby access points at Lake Harding and West Point that provide powered boat recreational access.

Regarding effects on Shoal Bass, Georgia Power implemented a Pre-Removal Shoal Bass Abundance and Tracking Study to provide baseline information on Shoal Bass. In addition, Georgia Power is proposing to implement a Post Removal Shoal Bass Abundance and Tracking Study to assess effects of the removal on Shoal Bass in the Project area. Section 8 of the APEA discusses effects of dam removal on Shoal Bass and other aquatic organisms.

Georgia Power performed studies to address effects of the decommissioning including: river hydraulics and hydrology (H&H) and potential impacts to aquatic organisms (including shoal bass). Study reports applicable to these comments include:

- Final H&H Report
- Final Water Quality Report
- Draft Sediment Quality Study Report
- Draft Sediment Transport Study Report
- Final Potential Effects on Dam Removal on Shoal Bass
- Pre-Dam Removal Shoal Bass Abundance and Tracking Study Report
- Freshwater Mussel Survey Report

Comment by GADNR - WRD Accession No. 20201104-5105

GA Power has completed a series of studies addressing potential changes to existing resources associated with the dam removals. These studies included modeling changes to river hydraulics and hydrology, sediment characterization, and potential impacts to aquatic wildlife, water quality, and cultural resources. Comprehensive modeling of flow distribution and velocity, shoal habitat, and potential impacts to aquatic resources such as the endemic Shoal Bass and native mussel community was also presented.

- Wildlife Resources Division finds the studies to be adequate, and we support Georgia Power's indication that sediment distribution will be further investigated during the decommissioning process in consultation with FERC and US Fish and Wildlife Service National Fish Passage Program.

Georgia Power's Response

Thank you for your comment and continued consultation.

Langdale and Riverview Projects - Public Comment Matrix

•We request that WRD be informed of related findings.
 •Georgia Power maintains ongoing consultation with WRD regarding the decommission and removal of these hydropower projects, and we support the proposed actions and associated studies. The removal of these projects is expected to restore connectivity and riverine characteristics in this reach of the Chattahoochee River, which is expected to benefit fish, wildlife, and aquatic resources. The WRD will remain engaged in the decommissioning process.

Comment by Valley City Council District 5 (Kendall Andrews) Accession No. 20201105-5000

Georgia Power's Response

I have made previous comments opposing the removal of the Langdale, Riverview, and Crow Hop dams. These dams provide the City of Valley and its citizens with an invaluable natural resource. I have many concerns about their removal that I will list below:

- The H&H model presented by Georgia Power predicts that both boat ramps located in the City of Valley will be dewatered post removal. Even if the boat ramps are extended, the amount navigable water with a powerboat will be so little that they will be useless. The City of Valley has a large number of older citizens that use the river on a daily basis with powerboats. Many of these people will not be able to drag a canoe or paddle a kayak through the shoals that will be present. Also, many people with disabilities will face the same barriers. Their access to the river will be gone
- The restoration of suitable shoal bass habitat has been mentioned as a possible benefit to the removal of the dams. I disagree with this. The only example of dam removal where shoal bass were present in the surrounding waters was in Columbus, GA with the removal of the City Mills and Eagle Phenix dams. Removal of these dams had an extremely negative effect on the shoal bass in this area. There has been no research done on the shoal bass population located in the reservoir below Langdale Dam. It is common knowledge that this is where the best population of shoal bass exists in this area. I believe that there should be some data obtained from this area, if for nothing else, to create a baseline for comparison post removal of the dams.
- The virtual format of the public meeting made participation very difficult for much of the community. The list of attendees submitted shows that there were few participants that were not associated with an agency or group. This is one of the only chances for members of the community to have their questions answered and to voice their opinions.

The removal of these dams has the potential to devastate the local community. The public meeting should not be rushed to meet a deadline.

- I would like to respectfully request that the Federal Energy Regulatory Commission require Georgia Power to hold an in-person public meeting once the nation pandemic ends. This will give everyone the opportunity to participate before any decisions are finalized.

The Applicant Prepared Environmental Assessment describes the change in river navigability of various vessels in Section 11. To address public access to the river, Georgia Power is proposing to extend three existing public boat ramps into the river to at least two feet of water depth at the new water surface elevation (measured at West Point minimum flow) following dam removal and river stabilization (see Section 11 of the APEA). Additionally, as discussed in the Recreation Section 11, there are nearby access points at Lake Harding and West Point that provide powered boat recreational access.

Regarding effects on Shoal Bass, Georgia Power implemented a Pre-Removal Shoal Bass Abundance and Tracking Study to provide baseline information on Shoal Bass. In addition, Georgia Power is proposing to implement a Post Removal Shoal Bass Abundance and Tracking Study to assess effects of the removal on Shoal Bass in the Project area. Section 8 of the APEA discusses effects of dam removal on Shoal Bass and other aquatic organisms.

Comment by Chattahoochee Riverkeeper (Chris Manganiello) Accession No. 20201105-5077

Georgia Power's Response

... Our comments will focus on 3 topics: recreational access; construction process; and aquatic resources.

- Recreational Access:
 -CRK supports safe, continued and enhanced access to the River in the middle of the Project area's middle (Cemetery Road) and the bottom (Lake Harding). This type of access will enable paddlers of varying skill to enter and exit the project area at multiple points. Some existing access points will require extensions and improvement when dam removal reduces pool elevations and river flows.
 -CRK also supports a new public recreational access point to the river above the Projects. For example, a new proposed park above Langdale on river right would provide safe access above the exposed Langdale shoals.

The new Langdale Park is described in Section 11 of the Applicant Prepared Environmental Assessment and is also referenced in the Decommissioning Plan and 90 percent drawings for the Langdale Project (Appendix D). In addition, the Decommissioning Plan provides details on the construction process, schedule, and post removal monitoring.

Regarding effects on Shoal Bass, Georgia Power implemented a Pre-Removal Shoal Bass Abundance and Tracking Study to provide baseline information on Shoal Bass. In addition, Georgia Power is proposing to implement a Post Removal Shoal Bass Abundance and Tracking Study to assess effects of the removal on Shoal Bass in the Project area. Section 8 of the APEA discusses effects of dam removal on Shoal Bass and other aquatic organisms.

Langdale and Riverview Projects - Public Comment Matrix

For example, see slide 55 from the October 5, 2020 Public Meeting. CRK understands that the City of Valley, Alabama may assume local control and responsibility for recreational assets in the Project area. Foot access to the islands and the river is something that might be considered. CRK understands the managed nature of West Point Dam releases and river flows adds significant risk for people who choose to recreate in the Project area. If a single access point from Langdale to the large adjacent island was available, anglers might appreciate foot access from the west bank to the shoals.

•Construction Process:

-CRK understands that Georgia Power is developing the details of the construction plan. CRK anticipates those details in the next round of public engagement and document release. CRK is very interested to learn about Georgia Power's plans for egress and river access to conduct physical construction and removal activities.

-Additionally, we look forward to reviewing the dam removal schedule, that is, which dam will be removed first and by what methods, and what will Georgia Power intend to do with the dams' debris.

-Finally, CRK would also like to know if Georgia Power has any additional plans for pre-construction and post-construction monitoring during the construction process, and specifically for sediment movement as well as quantity and quality.

•Aquatic Resources:

-CRK is optimistic that removal of the dams in the Project area will enhance aquatic habitat and connectivity for species, including shoal bass. While CRK understands that Georgia Power cannot stock any aquatic species without coordinating with Georgia's Department of Natural Resources Wildlife Resources Division, it would be helpful to understand Georgia Power's plans for pre-construction and post-construction monitoring of aquatic species.

-For example, is there a base-line for the shoal bass population, and if post-construction monitoring revealed poor conditions, what might Georgia Power do to improve conditions? It is our understanding that post-construction monitoring in Columbus after the removal of Eagle & Phenix and City Mills dams has been extremely limited.

•In closing, CRK remains supportive and hopeful about the prospect of barrier removal in the Middle Chattahoochee River region. Given the unprecedented size, scale and scope of this proposed project, pre- and post-construction monitoring of multiple natural and aquatic resources would greatly aid in the general understanding of the impacts and consequences of barrier removal in large, regulated southeastern river systems.

Based on our review of the study report, we have the following comments:

• On Page 5 of the draft study report, GPC stated "searches for relevant contemporary USGS and ADEM data were not found." ADEM sampled Moores Creek, which is one of the main tributaries to the Riverview Project Reservoir, in 2014 and 2016. This data can be found using the Water Quality Data Portal.

• We request Georgia Power to continue informing the ADEM of water quality and sediment distribution findings during the decommissioning process.

Georgia Power performed studies to address effects of the decommissioning, as described in the following study reports:

- Final H&H Report
- Final Water Quality Report
- Draft Sediment Quality Study Report
- Draft Sediment Transport Study Report
- Final Potential Effects on Dam Removal on Shoal Bass
- Pre-Dam Removal Shoal Bass Abundance and Tracking Study Report
- Freshwater Mussel Survey Report
- Archaeological Testing of Two Sites On The Chattahoochee River, 9HS30 AND 9HS31, Harris County, Georgia
- Archaeological Survey of 20 Acre Island in the Chattahoochee River, Harris County, GA
- Archaeological Reconnaissance Survey of the Chattahoochee River, Harris County, GA
- Langdale Dam Marine Remote Sensing in the Chattahoochee River, Harris County, GA
- Assessment of Effects for Archaeological Sites 9HS30, 9HS525, 9HS526, 9HS527, 9HS528, 9HS529, 9HS530, 9HS531, 9HS532, and 9HS533.

These comments are addressed in the Final Water Quality Study Report.

Comment by American Rivers Accession No. 20201106-5010

American Rivers fully supports and encourages the removal of these projects for the reasons outline below:

•Public safety improvements: On 4/1/2019, one drowning and three injuries occurred at Crow Hop diversion dam as a result of a kayaking accident. Eliminating the low head dams will significantly improve public safety in this reach of river, especially for water recreation activities.

Georgia Power's Response

Georgia Power performed studies to address effects of the decommissioning including: river hydraulics and hydrology (H&H), sediment characterization (quality and quantity), potential impacts to aquatic organisms, water quality, and cultural resources. Georgia Power is filing an Applicant Prepared Environmental Assessment (which incorporates study results and analyzes effects on environmental, recreational, and cultural resources), Dam Decommissioning Plan, and the following study reports:

Langdale and Riverview Projects - Public Comment Matrix

<ul style="list-style-type: none"> •Sediment release: Based on data provided by GPC, impounded sediment volumes behind the low head dams are negligible compared to overall sediment volume in the system below West Point dam, which has become a sediment sink since its construction. Release of impounded sediments at the removed Riverview & Langdale Dams will renourish sediment-starved downstream habitat for the benefit of aquatic species. •River flow: By definition, low head dams do not store water, therefore removal of the dams will not cause significant changes in flow volume or timing, as the flow of the Chattahoochee River is controlled by US Army Corps of Engineers (USACE) operations at West Point Dam. USACE may elect to hold back flow in West Point Lake during dam removal construction to provide optimal conditions for instream activities. Presence of naturally occurring bedrock shoals will act as grade control for the river once dam removal construction is completed. •Flood risk: According to GPC studies, removing the dams will not increase flood risk, and in fact reduces flood risk at the 1% return, particularly upstream of the Langdale Dam. American Rivers concurs with this finding. •Boat access: due to water elevation changes associated with dam removal, some areas of the river may not be navigable during low flow conditions, even for low draft paddling boats such as canoes and kayaks. However, the public safety benefits of dam removal are critical given the recent fatality and injuries at the Crow Hop dam. It may be possible to negotiate short term flow augmentation from West Point Lake to support schedule water recreation events. It is important to point out that more than adequate access to flat water boating for canoes, kayaks, jon boats, and deeper draft motorized boats exists at West Point Lake and Lake Harding in proximity to the project area. •Aquatic habitat connectivity and species impacted: GA Wildlife Resources Division finds that dam removal will support aquatic habitat connectivity and access for shoal bass, a high-value, rare species identified as a priority species in the GA State Wildlife Action Plan. Chattahoochee Riverkeeper finds the potential reconnection of up to 11 miles of shoal bass habitat and encourages habitat enhancements be included in the project. American Rivers concurs with these positions and supports dam removal for aquatic habitat connectivity to benefit shoal bass. •Infrastructure: American Rivers finds that GPC plan for dam removal incorporates structural adjustments to accommodate continued treated effluent discharges to the Chattahoochee River. •Public engagement: Based on materials provide by GPC, American Rivers finds that public engagement was sufficient to provide critical information about the project to surrounding property owners, river interest groups, cognizant agencies, and stakeholders. •Water quality: American Rivers has documented the impacts of low head dams on water quality including decreased dissolved oxygen and increased thermal profile at numerous locations around the country. We concur with GPC's finding that dam removal will not negatively impact the water quality of the Chattahoochee River. 	<ul style="list-style-type: none"> • Final H&H Report • Final Water Quality Report •Draft Sediment Quality Study Report •Draft Sediment Transport Study Report •Final Potential Effects on Dam Removal on Shoal Bass •Pre-Dam Removal Shoal Bass Abundance and Tracking Study Report •Freshwater Mussel Survey Report •Archaeological Testing of Two Sites On The Chattahoochee River, 9HS30 AND 9HS31, Harris County, Georgia •Archaeological Survey of 20 Acre Island in the Chattahoochee River, Harris County, GA •Archaeological Reconnaissance Survey of the Chattahoochee River, Harris County, GA •Langdale Dam Marine Remote Sensing in the Chattahoochee River, Harris County, GA •Assessment of Effects for Archaeological Sites 9HS30, 9HS525, 9HS526, 9HS527, 9HS528, 9HS529, 9HS530, 9HS531, 9HS532, and 9HS533.
<p>Comment by American Rivers Accession No. 20201106-5011 - Duplicate of above comments</p>	<p>Georgia Power's Response - see above</p>
<p>Comment by Chattahoochee Riverkeeper (Chris Manganiello) Accession No. 20201106-5011 - Duplicate of above comments</p>	<p>Georgia Power's Response - see above</p>
<p>Comments by Federal Energy Regulatory Commission Accession No. 20201118-3015</p>	<p>Georgia Power's Response</p>
<p>H&H</p>	
<p>As noted in our August 15, 2019 letter, several stakeholders raised concerns regarding the composition of the sediment and the possible presence of contaminants within it. The H&H study fails to characterize the sediments found within the projects' reservoirs and instead speaks mostly to sediments elsewhere in the river</p>	<p>Georgia Power conducted a standalone Sediment Quality Study and is filing a Draft Sediment Quality Study Report concurrent with the Dam Decommissioning Plan and Applicant Prepared Environmental Assessment to address specific comments on sediment. The Final H&H Study Report incorporates by reference the Draft Sediment Quality Study Report.</p>

Langdale and Riverview Projects - Public Comment Matrix

<p>basin. Additionally, Appendix C only includes data for the borings within the proposed constructed channel through the island between Langdale Dam and Powerhouse.</p> <ul style="list-style-type: none"> •You must revise the H&H study report to characterize the sediments within the project reservoirs and include the associated data. 	
<p>The H&H study fails to explain why you did not perform a chemical analysis of the sediment and does not speak to the concerns related to possible contaminants in any meaningful way. You must explain the appropriateness of the comparisons in the H&H study to other sampling completed within the river basin due to the following conditions: 1) West Point Dam was more recently constructed and some of the sampling was performed in the riverine section just below the dam; and 2) the City Mills and Eagle Phenix Dams were located downstream of Lake Harding and had smaller impoundments with characteristics that made them less likely to trap sediment.</p> <ul style="list-style-type: none"> •You must revise the H&H study report to reassess the need for chemical analysis based on project specific circumstances. 	<p>Georgia Power conducted a standalone Sediment Quality Study and is filing a Draft Sediment Quality Study Report concurrent with the Dam Decommissioning Plan and Applicant Prepared Environmental Assessment. The Draft Sediment Quality Study Report provides a chemical analysis of the sediment and documentation of consultation. As applicable, the Final H&H Study Report incorporates by reference the Draft Sediment Quality Study Report.</p>
<p>The H&H study fails to explain how the number and locations of the sediment borings were determined, or explain their adequacy of lack thereof (e.g., see pages 31 and 52 – “borings did not provide enough information for interpolation”).</p> <ul style="list-style-type: none"> •You must revise the H&H study report to include an explanation of the appropriateness and adequacy of the locations and number of borings completed. 	<p>Georgia Power conducted a standalone Sediment Transport Study and is filing a Draft Sediment Transport Study Report with the Dam Decommissioning Plan and Applicant Prepared Environmental Assessment. The Final H&H Study Report incorporates by reference the Draft Sediment Transport Study Report.</p>
<p>The H&H study fails to address sediment quantity (estimated to be 516-acre-feet or approximately 832,500 cubic yards), post removal sediment transport, and associated impacts in any meaningful way.</p> <ul style="list-style-type: none"> •Either the Decommissioning Plan or the revised H&H study report must include a thorough analysis of the post removal sediment impacts, considering specific metrics such as erosion, scouring, incision, accretion, etc., stemming from the initial and prolonged changes in flow dynamics during and following dam removals. •You must also include specific analyses of these impacts to aquatic organisms, as described below. 	<p>Georgia Power has addressed the sediment quantity in the Draft Sediment Transport Study Report along with responses to each of the specific metrics described by FERC. Potential effects on aquatic organisms are described in the Applicant Prepared Environmental Assessment and in the Draft Sediment Transport Study Report.</p>
<ul style="list-style-type: none"> •Either the Decommissioning Plan or the revised H&H study report must include a discussion of post-removal streambank erosion. 	<p>The Decommissioning Plan discusses post removal streambank erosion.</p>
<p>The H&H study indicates two boat launches will be dewatered as well as the loss of motorboat access to most of the study reach but fails to discuss the impacts or possible mitigation measures.</p> <ul style="list-style-type: none"> •Either the Decommissioning Plan or the revised H&H study report must include a discussion of impacts and possible mitigation measures. 	<p>The Decommissioning Plan and the Applicant Prepared Environmental Assessment discuss Georgia Power's proposed protection, mitigation, and enhancement measures to address access to existing public boat ramps.</p>
<p>The H&H study contains the following error message in several locations (e.g., pages 25, 52, 53, and 74): “Error! Reference source not found.” Please correct these reference errors.</p>	<p>Error corrected in the Final H&H Study Report.</p>
<p>Shoal Bass & Water Quality</p>	
<p>In the shoal bass literature review, you included a histogram displaying predicted acres of existing and post-removal optimal habitat for shoal bass. You state that the data were generated from output from the Hydrologic Engineer Center – River Analyses System (HEC-RAS) modeling and analyzed with GIS, however, you did not provide supporting evidence (methods, data, maps, etc.) to substantiate those conclusions.</p> <ul style="list-style-type: none"> •Either the Decommissioning Plan or a revised shoal bass literature review must include such evidence to adequately support your conclusions. 	<p>Georgia Power conducted a standalone Pre-Dam Removal Shoal Bass Abundance and Tracking study that includes methods, data, maps, and conclusions.</p>

Langdale and Riverview Projects - Public Comment Matrix

<p>Similarly, you state in the water quality study report that conclusions were made based on modeling results; however, the methods you used were not described in the report, nor were any pertinent supporting materials to substantiate the statements that:</p> <ul style="list-style-type: none"> -The decommissioning and removal of Crop Hop and Riverview Dams will result in a minimum flow of at least 193 cubic feet per second in the Headrace Channel [thereby not impacting the Valley Wastewater Treatment Plan permitted effluent discharge]; -and If the projects' dams are removed, the resulting lower water levels and higher water velocities in the affected reach of the Chattahoochee River would provide an alternative means of physical aeration as the water passes through exposed shoals. <p>•Because there are gaps in your conclusions, you must address the items above in either the Decommissioning Plan or a revised water quality study report by providing such evidence to adequately support your results. Regarding minimum flows in the headrace channel, please also include documentation of correspondence with Valley Wastewater Treatment Plant for our review.</p>	<p>These comments are addressed in the Final Water Quality Study Report. Note that the consultation for the Valley Wastewater Treatment Plant was conducted with the East Alabama Water, Sewer, and Fire Protection District.</p>
<p>Aquatic Resources</p>	
<p>The H&H study does not address the specific methods that will be used in the removal of each individual dam, nor does it address the rate of drawdowns that each pond would experience as a result of each removal.</p> <ul style="list-style-type: none"> •The Decommissioning Plan must include the specific means by which the dams would be removed, including the anticipated rate of drawdown (to natural river channel) that would occur under each scenario. 	<p>Specific information on the removal of each dam and the Riverview Powerhouse is provided in the Decommissioning Plan, along with the construction sequence, schedule, and drawdown information.</p>
<p>As noted above, the H&H study does not provide an adequate analysis of sediment transport during and following dam removals. Further, there is no analysis of potential effects to mussel beds or other aquatic organisms in the shoal bass or mussel studies.</p> <ul style="list-style-type: none"> •The Decommissioning Plan must include an analysis of the potential impacts of sediment transport to aquatic organisms (i.e., sedimentation of mussel beds, habitat loss/creation, etc.), based on the revised H&H study report as directed above. 	<p>These issues are addressed in the Applicant Prepared Environmental Assessment.</p>
<p>Regarding aquatic organisms that may become stranded in dewatered areas during and following dam removals, there is no mention of a plan for surveys and/or rescue efforts in either the mussel or shoal bass studies.</p> <ul style="list-style-type: none"> •The Decommissioning Plan must include a plan to survey for stranded aquatic organisms during each dam removal, including methods for rescue/relocation if stranded organisms are found. This plan must be based on your previous bathymetry models, as well as your pending analysis of anticipated rates of reservoir drawdown as directed above. 	<p>The Draft Aquatic Organism Recovery Survey and Relocation Plan is discussed in the Decommissioning Plan and the Applicant Prepared Environmental Assessment. In addition, the draft Aquatic Organism Recovery Survey and Relocation Plan is provided as an appendix to the Decommissioning Plan.</p>
<p>Cultural Resources</p>	
<p>On September 21, 2020, you filed archaeological surveys completed for the Langdale and Riverview Projects with the Commission. However, you did not include consultation from the Georgia and Alabama State Historic Preservation Officers (Georgia and Alabama SHPOs) regarding the review of archaeological surveys in your filing.</p> <ul style="list-style-type: none"> •In our review of the archaeological surveys, we expect your Decommissioning Plan filing to include a draft Memorandum of Understanding (MOA) that memorializes the mitigation of any adverse effect to historic properties that would result from your proposals. •Additionally, you should include documentation of your consultation with the Georgia and Alabama SHPOs and how you addressed any of their comments in the MOA. 	<p>Consultation with the SHPOs has been ongoing during the study phase and this documentation is provided in the Consultation Summary as appendices to the concurrently filed Privileged cultural resource reports. After the study report review concluded, Georgia Power drafted an MOA that went out on July 1, 2022 to Alabama and Georgia SHPOs as well as Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Coushatta Tribe of Louisiana, and the Muscogee (Creek) Nation. Georgia Power did receive comments from the SHPOs and is currently addressing those comments in the MOA; a 2nd draft MOA will be sent back out to the same July 1st groups by middle to late August 2022. Georgia Power anticipates receiving any further comments and addressing them by about early October. Georgia Power will submit documentation of the MOA drafts and MOA consultation in a separate submittal to FERC in October 2022.</p>

Langdale and Riverview Projects - Public Comment Matrix

<p>Other Issues</p>	
<p>Several comments were filed in response to the October 5, 2020 virtual study result meetings. •You are expected to respond to those comments either as part of the study report revisions requested above or in the Decommissioning Plan to be filed with the Commission.</p>	<p>Comments are addressed in the Draft and Final Study Reports, Decommissioning Plan, and/or Applicant Prepared Environmental Assessment.</p>
<p>We remind you that our analysis of the surrender and decommissioning is based only on information filed on the record for these proceedings. •To help prevent the need for additional future studies and information requests, we again recommend that you document the detailed methods, consultation process, development, and implementation of these studies. Additionally, each study report should include each party's concurrence and/or comments, and explanations of how you addressed the comments.</p>	<p>The Study Reports include the associated documentation of consultation.</p>



Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date: 9 January 2018; 10 a.m.

Communication Type: in-person meeting at Region 4, USFWS Region 4 ES Office at 105 West Park Drive, Athens, GA 30606

List and attach pertinent written correspondence: no hand-outs or e-files

List persons attending from Southern Company/Georgia Power:

Melissa Crabbe, Southern Company Services (SCS) Hydro Generation

Courtenay O'Mara, SCS Hydro Generation Services, Supervisor

Patrick O'Rourke, Georgia Power Company (GPC)

Jim Ozier, Georgia Power Company (GPC)

Tony Dodd, Georgia Power Company (GPC)

List organization name and persons attending from other organization:

Don Imm, PhD, Supervisor, USFWS Region 4 Ecological Services Unit

Tamara Johnson, Utilities Biologist, USFWS Region 4 Ecological Services Unit

Subject: Discussion about possible surrender of hydro licenses for Langdale and/or Riverview

Comments/Discussions/Requests:

Project description, physical features, hydro operations, and briefing about potential license surrender and rationale for Langdale and/or Riverview.

Potential conservation project outcomes for any jurisdictional protected species.

General early rationale and knowledge of FERC needs and schedule timeline.

Follow-up Requirements: no specific requirements at this stage

Form Completed By: Tony Dodd



630 Colonial Park Drive
Suite 200
Roswell, Georgia 30075
P 770.998.7848 • F 770.998.5606
www.ecologicalsolutions.net

October 14, 2019

Mr. Anthony Dodd
Natural Resource Specialist
Georgia Power Company
241 Ralph McGill Boulevard
Atlanta, Georgia 30308

RE: Revised Project Proposal – Langdale and Riverview/Crow Hop Dam Removal Mussel Survey
Harris County, Georgia and Chambers County, Alabama

Dear Mr. Dodd:

Thank you for the opportunity to be of further assistance to Georgia Power Company (Georgia Power). Georgia Power is coordinating with the Federal Energy Regulation Commission (FERC) to remove the Langdale, Riverview and Crow Hop Dams on the Chattahoochee River. There is approximately 1.3 river miles between the Langdale and Crow Hop Dams. It is our understanding that mussel surveys for federal and state listed species are required in association with removal of the dams. Georgia Power has provided maps depicting approximate boundaries for the focal areas of the surveys (Figures 1 - 3). The focal areas consist of locations where active disturbance activities could occur during the dam removal process. It is our understanding the focal areas could shift as final designs are prepared for the dam removals.

In addition to the primary focal areas, Ecological Solutions will assess the quality of mussel habitat within the approximately 1.3 miles of river between the Langdale and Crow Hop Dams. Identified areas between the two proposed dam removal sites that exhibit potential quality mussel habitat will be surveyed as well. The proposed scope of work includes hand grubbing and snorkeling, SCUBA searches (where and if needed), GPS locations of any state and/or federally listed mussel species collected, and a report summarizing the findings of the surveys.

A detailed scope of work, fee, and proposed schedule is presented below for your consideration.

SCOPE OF WORK

Based on our communications with Georgia Power, tasks to be completed include:

- Mussel surveys (utilizing hand grubbing, snorkeling, and SCUBA)
- Photographic documentation of surveyed aquatic resources
- Threatened and endangered species research and findings
- GPS recording of protected species locations
- Report summarizing all findings

Prior to stream surveys, existing available information regarding potential threatened and endangered mussel species will be gathered for the study area. Resources to be reviewed include the United States Fish and Wildlife Service on-line Information for Planning and Conservation (IPaC) data base, the Georgia Natural Heritage Program (GNHP) on-line quarter-quadrant list of protected species, previous studies conducted by Georgia Power, on-line information from the Alabama Department of Natural Resources Nongame Wildlife Program, and Georgia's Natural, Archaeological, and Historic Resources GIS (GNAHRGIS) database. Initial review of these resources indicates that federal and state listed mussel species of potential occurrence in the vicinity of the dam removal projects include:

- Oval pigtoe (*Pleurobema pyriforme*) – federal endangered
- Purple bankclimber (*Elliptioideus sloatianus*) – federal threatened
- Fineline pocketbook (*Lampsilis altilis*) – federal threatened
- Ovate clubshell (*Pleurobema perovatum*) – federal endangered
- Gulf moccasinshell (*Medionidus penicillatus*) – federal endangered
- Delicate spike (*Elliptio arctata*) – state endangered (Georgia)
- Southern elktoe (*Alasmidonata triangulata*) – state endangered (Georgia)

Data gathered during the office review will be used to assess the potential occurrence of protected species during field surveys.

The proposed survey methodology is based on the *Freshwater Mussel Survey Protocol for Transportation Projects within the State of Georgia* (November 2018). This protocol was created by the Georgia Department of Natural Resources (DNR), Georgia Department of Transportation (GDOT), and U.S. Fish and Wildlife Service (USFWS) to establish a standardized mussel survey protocol that could be used across physiographic provinces. This protocol provides precise application of the sampling methods for wadeable and non-wadeable streams and provides a measure of certainty in the presence/absence of state and federally protected freshwater mussel species at a project site.

Each survey area, as depicted on the attached Figures, will be divided into 50-meter long segments with 25% of the search area located upstream of the proposed project and 75% of the search located downstream of the proposed project. The survey areas may be modified as final plans for the dam removals are finalized. Each of the 50-meter segments will be surveyed by a minimum of 4 searchers for a minimum of 2 person-hours (i.e. 4 searchers X 30 minutes = 2 p-hours) to reduce surveyor bias. Each searcher must carefully search all habitats, from bank to bank, using tactile and visual searches within each segment of the survey area. Searchers will not overlap search areas in order to ensure independence of searches. All surveying will be conducted from the downstream reach to the upstream reach to minimize potential increases in searcher induced turbidity. All animals collected will be retained by the individual searcher that collected them.

The survey will begin by conducting a visual search to examine dead shells along river shorelines and all exposed areas. The visual search on the bank(s) will be conducted in addition to a tactile (hand-grubbing 1-2 inches into substrate to increase detection of more deeply buried mussels) search and, if possible, visual search for individuals within the water. For tactile and visual

searches within the stream channel, searchers will be spaced equidistant across the stream channel and slowly move upstream in longitudinal transects; if a substantial amount of space exists between them, searchers will progress upstream in a zig-zag pattern to cover a larger area. The following techniques will be used during the surveys: 1) for areas less than 1.5 meters in depth, mask and snorkel combined with tactile search will be used. If mask and snorkel are not feasible, only tactile searches will be used. The use of view buckets may be appropriate when visibility permits; 2) for areas greater than 1.5 meters in depth, SCUBA diving equipment will be used. Two divers will conduct the search while being assisted by one support person each.

The survey area includes upstream areas immediately adjacent to both the Crow Hop and Langdale Dams. Survey methodology, transects locations may be altered during the field survey in the area immediately adjacent to the dams in consideration of diver safety.

Collected mussels awaiting identification and data collection shall be temporarily held in mesh bags suspended in the stream. Specimens may be held for up to 3 hours provided they are held in the stream in bags that allow free movement of water over the mussels. All mussels will be returned to the point of capture and hand placed with their anterior ends in the substrate and posterior end exposed to the water with siphon facing upstream.

Information relevant to the survey site will be collected and recorded on the field data form. Of particular importance are water quality parameters (water temperature, stream flow, turbidity, pH, conductivity, etc.) and instream features. Locations of suitable habitats will be shown in the sketch map and indicate the level of suitability for the species being surveyed for (marginal, suitable, or preferred).

For the 1.3-mile section between the Langdale and Crow Hop Dams, the river will be traversed using a boat/canoe to identify potential suitable mussel habitat. If identified, these areas will be surveyed using visual and tactile search methodologies outlined above. Rather than detailed transects, identified mussel habitat in this reach of the river will be surveyed by a 4-person team utilizing a random, non-overlapping pattern across the suitable habitat.

Should state or federal listed mussel species or specialized habitat be identified during the aquatic surveys, their location will be recorded using GPS technology.

Project Deliverables

Project deliverables include a report describing field methodology, findings, and shapefiles documenting the location of any identified state or federally listed mussel species.

Project Schedule

It is estimated that 5 field days for a 4-person crew will be required to complete the mussel surveys. We are prepared to conduct the field surveys within 10 business days of notice to proceed. It is our understanding that the project goal is to submit a draft report for FERC by December 1, 2019. To meet that schedule, field surveys would need to be conducted in October 2019. Assuming field

surveys are conducted in October, the draft report would be submitted for Georgia Power review no later than November 15, 2019.

Itemized Not to Exceed Budget

Please refer to the attached spreadsheet for the proposed fee. Projected expenses include mileage and field supplies. Actual expenses will be passed thru with no mark-up.

Thank you for the opportunity to be of continued service to Georgia Power Company. Should you have any questions or need additional information regarding this proposal, please contact me at 404-915-8823.

Thank You,

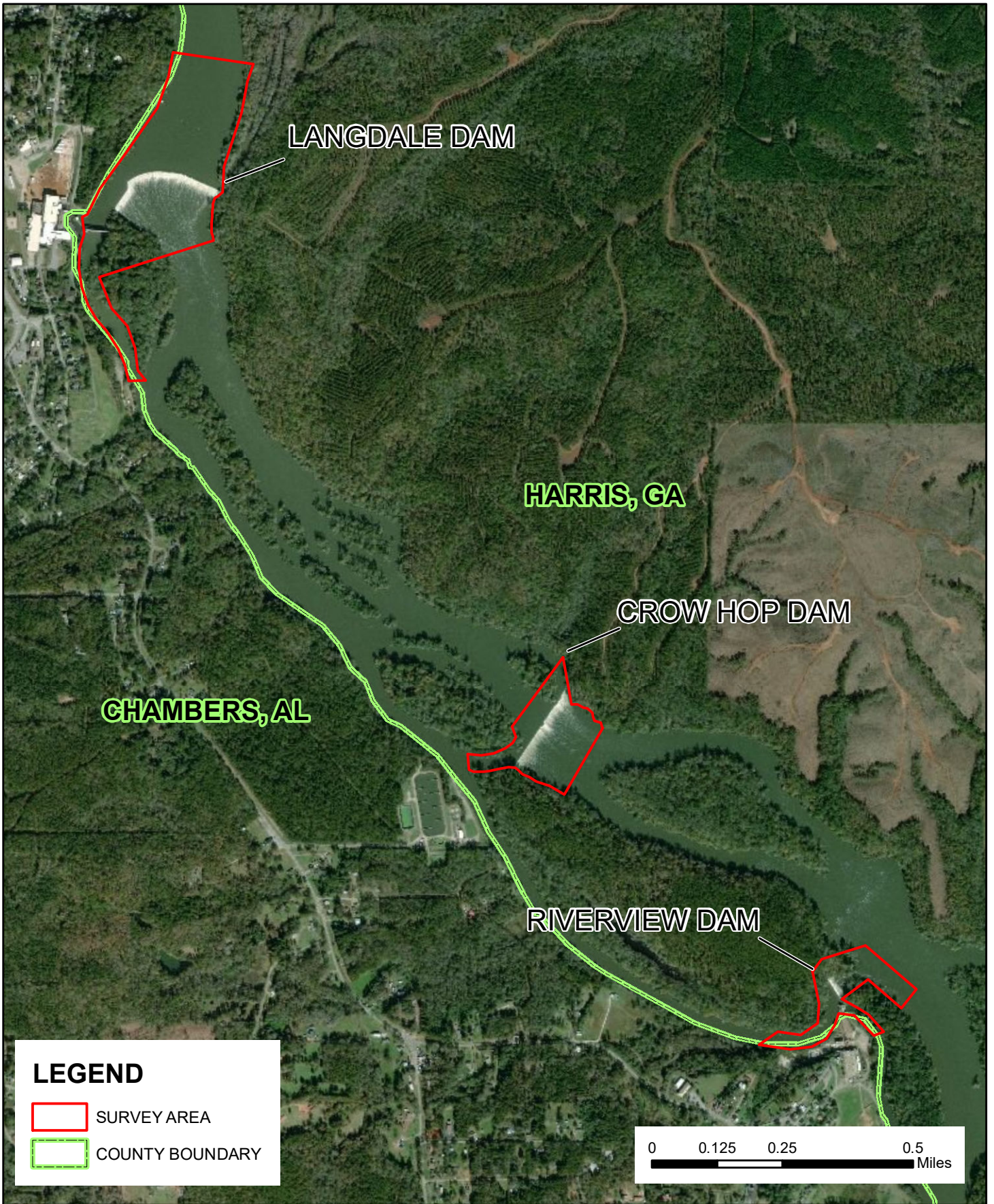
ECOLOGICAL SOLUTIONS, INC.

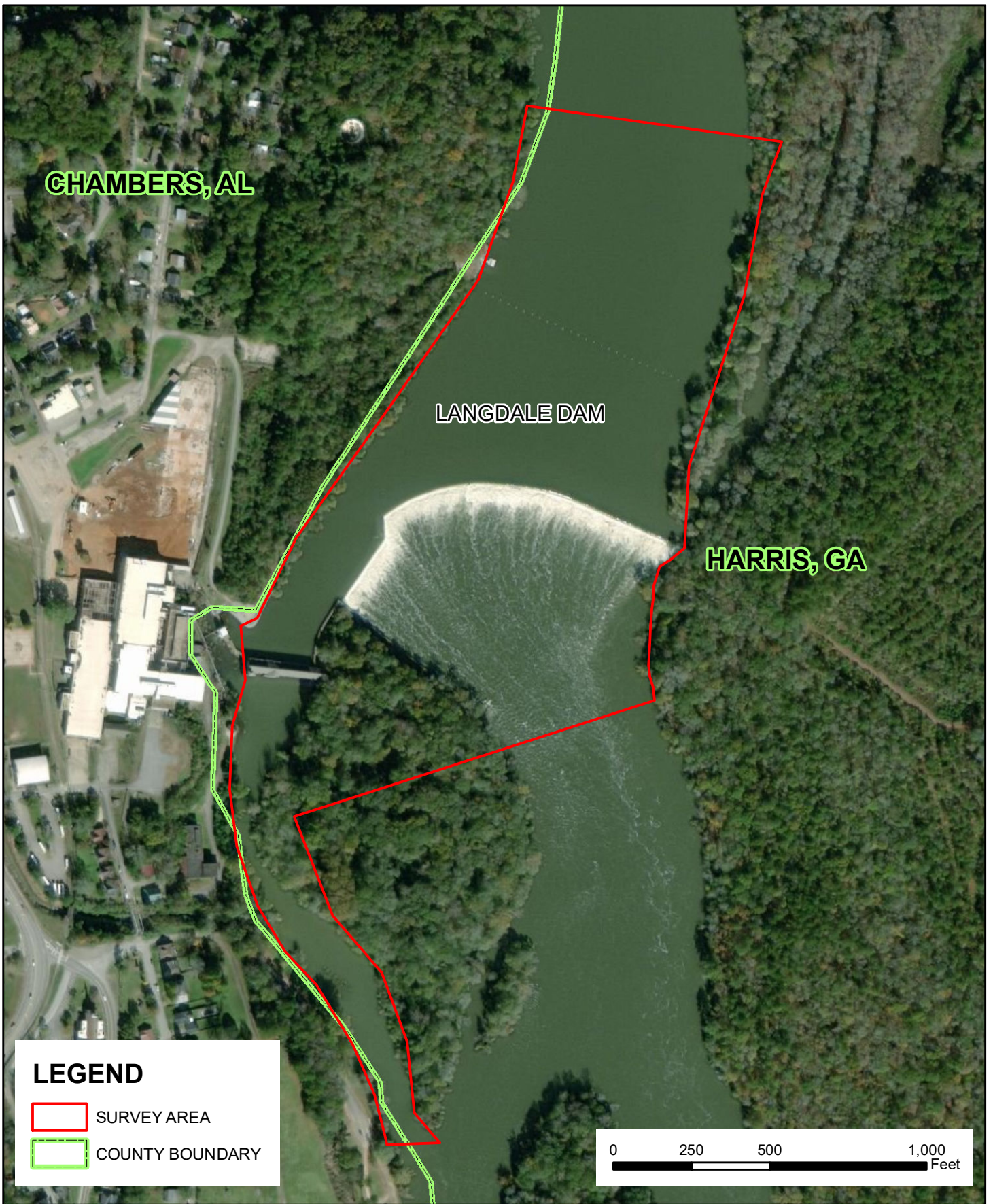
A blue ink signature of Mark Ballard, written in a cursive style.

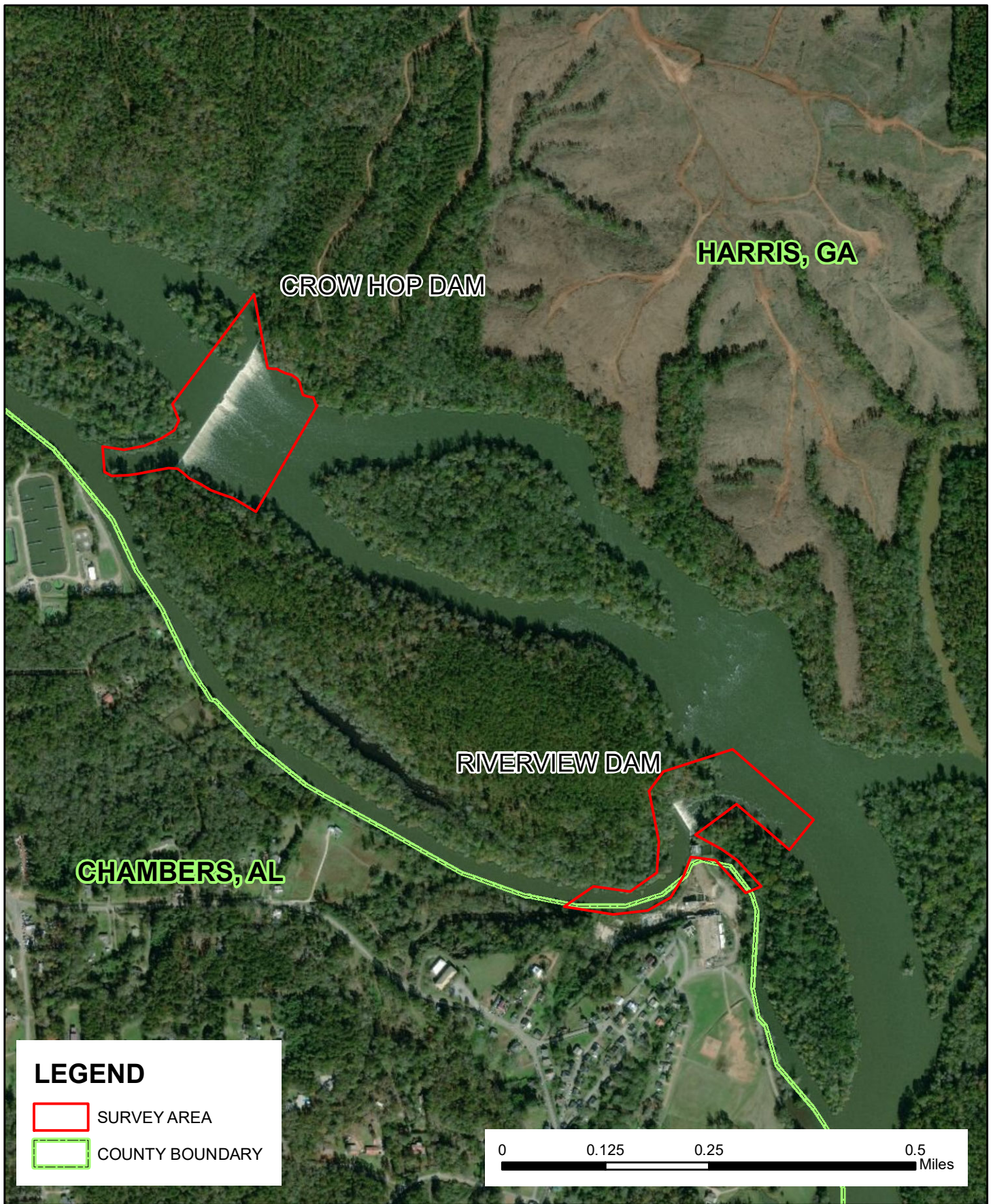
Mark Ballard, PWS
President

A blue ink signature of Dean Wilder, written in a cursive style.

Dean Wilder
Aquatic Biologist







From: [Dodd, Anthony Ray](#)
To: [Dodd, Anthony Ray](#)
Subject: FW: [EXTERNAL] Langdale/Riverview Mussel Survey
Date: Tuesday, June 23, 2020 9:26:48 AM
Attachments: [Ecological Solutions Proposal - Langsdale & Riverview Dam Removal Mussel Survey revised.pdf](#)

From: Imm, Donald <donald_imm@fws.gov>
Sent: Thursday, October 17, 2019 3:14 PM
To: Sandy Abbott <sandy_abbott@fws.gov>; Dodd, Anthony Ray <ARDODD@southernco.com>
Cc: John Doresky <John_Doresky@fws.gov>
Subject: Re: [EXTERNAL] Langdale/Riverview Mussel Survey

EXTERNAL MAIL: Caution Opening Links or Files

Hi Tony, Sandy is our mussel expert, so I'll rely on her opinion. I looked it over, and it seems appropriate to me, Sandy?

On Tue, Oct 15, 2019 at 5:20 PM Dodd, Anthony Ray <ARDODD@southernco.com> wrote:

Don,

I hope all is well with you.

Here is a project task update and oversight request for GPC's Langdale/Riverview Dam Decommissioning project.

In response to FERC's input, GPC is prepared now to conduct a mussel survey of the project area this month (Oct). GPC is requesting USFWS review and approval of the proposed scope of work before initiating the field work. Included here is a copy of the proposed work plan. For the sake of successfully surveying under suitable flows and temperature with remaining time this Fall (before early November), the task timeline is very compressed. Depending on the results of the survey this Fall will provide an opportunity for the project team to formulate additional survey needs or remedy response before Summer 2020.

We greatly appreciate any consideration for rapid review.

Please contact me if you have any questions.

Thank you,

Tony Dodd
Natural Resources Specialist
Georgia Power Company
241 Ralph McGill Blvd, NE
Atlanta, GA 30308
Ph: 404-506-5026
Cell:404-434-9412

--

Donald W. Imm, PhD.

Field Supervisor

U.S.Fish & Wildlife Service, Georgia Ecological Service

[355 East Hancock Avenue, Room 320 \[maps.google.com\]](#) Box 7

[Athens, GA 30601 \[maps.google.com\]](#)

cell: 850/532-2046

office: 706/208-7501

fax: 706/613-6059

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From: [Dodd, Anthony Ray](#)
To: [Dodd, Anthony Ray](#)
Subject: FW: [EXTERNAL] Langdale/Riverview Mussel Survey
Date: Tuesday, June 23, 2020 9:26:48 AM
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From: Imm, Donald <donald_imm@fws.gov>
Sent: Thursday, October 17, 2019 3:14 PM
To: Sandy Abbott <sandy_abbott@fws.gov>; Dodd, Anthony Ray <ARDODD@southernco.com>
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Donald W. Imm, PhD.

Field Supervisor

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[Athens, GA 30601 \[maps.google.com\]](#)

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From: [Dodd, Anthony Ray](#)
To: [Dodd, Anthony Ray](#)
Subject: FW: [EXTERNAL] Langdale/Riverview Mussel Survey
Date: Tuesday, June 23, 2020 9:20:00 AM

From: Rowe, Matthew <matthew.rowe@dnr.ga.gov>
Sent: Monday, October 21, 2019 11:16 AM
To: Dodd, Anthony Ray <ARDODD@southernco.com>
Subject: RE: [EXTERNAL] Langdale/Riverview Mussel Survey

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Tony,

Sounds like Sandy hit the most critical points already. It's interesting that they pulled up mobile basin species... do you have a list of which HUC's they are looking at?

I read over the proposal and it seems to be solid. I reiterate Sandy's comments to remove Finline pocketbook (*Lampsilis altilis*) and Ovate clubshell (*Pleurobema perovatum*) and include *Hamiota subangulata*. Another potential species of interest is Inflated Spike (*Elliptio purpurella*) which is GA state threatened. It's not known from the study area but it might be worth keeping an eye out for. I'm curious to see what they recover. That section of river is pretty heavily impacted and any live animals would be good news.

Matthew Rowe
Aquatic Biologist - Freshwater Invertebrates, Wildlife Conservation

Wildlife Resources Division [\[gcc01.safelinks.protection.outlook.com\]](http://gcc01.safelinks.protection.outlook.com)

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GEORGIA DEPARTMENT OF NATURAL RESOURCES

From: Dodd, Anthony Ray <ARDODD@southernco.com>
Sent: Monday, October 21, 2019 9:40 AM
To: Rowe, Matthew <matthew.rowe@dnr.ga.gov>
Subject: FW: [EXTERNAL] Langdale/Riverview Mussel Survey

From: [Dodd, Anthony Ray](#)
To: [Dodd, Anthony Ray](#)
Subject: FW: [EXTERNAL] Langdale/Riverview Mussel Survey
Date: Tuesday, June 23, 2020 9:28:07 AM

From: Dodd, Anthony Ray
Sent: Monday, October 21, 2019 9:40 AM
To: Rowe, Matthew <matthew.rowe@dnr.ga.gov>
Subject: FW: [EXTERNAL] Langdale/Riverview Mussel Survey

Matt,

Here's a note to let you know that USFWS responded with review of the proposed Langdale/Riverview mussel survey scope of work.

Below, you'll see Sandy Abbot's (USFWS) reply and guidance to modify the scope by dropping finelined pocketbook and Ovate Clubshell off of the list and adding shiny rayed pocketbook. Wanting to understand more about her guidance, I've taken some time to search for the source of GPC's initial proposed list of highlighted species.

I found that GPC's original search for potential species of the survey area was likely a bit too broad (using HUC 10 locations in WRD's biodiversity portal). The HUC10 list actually includes finelined pocket book and ovate clubshell but does not include shiny rayed pocket book. At the HUC 8 level, ovate clubshell drops out but not finelined pocketbook.

I indicated to Sandy that we'll include her recommended changes to the study plan species list.

I hope the timing of this message is helpful to you. Please let us know if you have any questions. We're hoping to start that survey as soon as the flows and visibility settle down a little bit.

Tony

From: Abbott, Sandy <sandy_abbott@fws.gov>
Sent: Thursday, October 17, 2019 4:15 PM
To: Dodd, Anthony Ray <ARDODD@southernco.com>
Cc: Imm, Donald <donald_imm@fws.gov>; John Doresky <John_Doresky@fws.gov>
Subject: Re: [EXTERNAL] Langdale/Riverview Mussel Survey

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Tony,

I have reviewed the mussel survey proposal for the Langdale and Riverview/Crow Hop Dam removal project. There are a couple of mistakes in the species list that should be corrected. The two species, , should be taken off the list (neither occur in this system) and shinyrayed pocketbook (*Hamiota subangulata*) should be added. Using the GDOT mussel survey protocol is not appropriate for a project of this size. However, I believe the survey work proposed is adequate for this area of the Chattahoochee River since there are only historical occurrences for all listed mussels, with the exception of the one purple bankclimber found in 2001. If this project was in a different area where we have current records of federally-listed mussels the survey effort proposed may not be considered adequate enough to ensure a thorough survey. I just wanted to be sure this survey effort didn't set a precedent for future dam removal projects in other river systems.

I look forward to seeing what they find!

On Thu, Oct 17, 2019 at 3:20 PM Dodd, Anthony Ray <ARDODD@southernco.com> wrote:

Thank you...y'all please let me know if you have any questions.

Tony

-

From: Imm, Donald <donald_imm@fws.gov>
Sent: Thursday, October 17, 2019 3:14 PM
To: Sandy Abbott <sandy_abbott@fws.gov>; Dodd, Anthony Ray <ARDODD@southernco.com>
Cc: John Doresky <John_Doresky@fws.gov>
Subject: Re: [EXTERNAL] Langdale/Riverview Mussel Survey

-

EXTERNAL MAIL: Caution Opening Links or Files

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response before Summer 2020.

We greatly appreciate any consideration for rapid review.

Please contact me if you have any questions.

-

Thank you,

-

-

Tony Dodd

Natural Resources Specialist

Georgia Power Company

241 Ralph McGill Blvd, NE

Atlanta, GA 30308

Ph: 404-506-5026

Cell:404-434-9412

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Donald W. Imm, PhD.

Field Supervisor

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-

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==

Sandy Abbott

US Fish and Wildlife Service

West GA Ecological Services Sub Office

Fish and Wildlife Biologist

706-662-4615

From: [Dodd, Anthony Ray](#)
To: [Dodd, Anthony Ray](#)
Subject: FW:
Date: Tuesday, June 23, 2020 9:19:01 AM

From: Rowe, Matthew <matthew.rowe@dnr.ga.gov>
Sent: Monday, November 04, 2019 11:34 AM
To: Dodd, Anthony Ray <ARDODD@southernco.com>
Subject: RE:

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Thanks Tony,

I sent him an email. I'd like to get down there to help out if I can. Hopefully we can work something out.

- Matt

From: Dodd, Anthony Ray <ARDODD@southernco.com>
Sent: Friday, November 1, 2019 4:27 PM
To: Rowe, Matthew <matthew.rowe@dnr.ga.gov>
Cc: Mark Ballard <markballard@ecologicalsolutions.net>
Subject:

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hey Matt,

I hope all is well with you.

This is a note to let you know that Ecological Solutions hopes to start the mussel survey for the Langdale Riverview project next Wednesday. You are welcome to observe or participate in the survey.

If you choose to meet the crew, contact Mark Ballard (markballard@ecologicalsolutions.net) and simply reference this email.

Thanks and hope you have a great weekend!

Tony

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From: [Dodd, Anthony Ray](#)
To: [Dodd, Anthony Ray](#)
Subject: FW: Langsdale, Riverview, and Crow Hop Dam Removal
Date: Tuesday, June 23, 2020 9:24:51 AM

From: Dean Wilder <deanwilder@ecologicalsolutions.net>
Sent: Monday, November 04, 2019 2:36 PM
To: matthew.rowe@dnr.ga.gov
Cc: Mark Ballard <markballard@ecologicalsolutions.net>; Dodd, Anthony Ray <ARDODD@southernco.com>; David Smith <davidsmith@ecologicalsolutions.net>
Subject: Langsdale, Riverview, and Crow Hop Dam Removal

EXTERNAL MAIL: Caution Opening Links or Files

Matt,

I just wanted to touch base with you concerning the Langsdale, Riverview, and Crow Hop dam removal mussel surveys. First of all, I just got off the phone with Tony Dodd of Georgia Power. He said that the Corps of Engineers have to do a scheduled release out of West Point Lake today and Wednesday. It will be at a rate of 11,000 cfs for at least 8 hours each day. That plus the fact that rain is expected on Thur. and/or Fri. has pretty much wiped out any chance of getting in the water this week. However, when it does get put back on the schedule, we'd be glad to have your help and expertise any time. It will be good to see you again (we rode around together at the ACF Mussel Workshop at the Jones Center). We will definitely keep you posted on any updates and schedule changes for this project.

Dean Wilder
Senior Ecologist
Ecological Solutions, Inc.
630 Colonial Park Drive
Suite 200
Roswell, GA 30075

Office: 770.998.7848 ext. 123
Cell: 770.527.0562
Fax: 770.998.5606

www.ecologicalsolutions.net [ecologicalsolutions.net]

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From: Mark Ballard
Sent: Monday, November 04, 2019 11:42 AM
To: Dean Wilder <deanwilder@ecologicalsolutions.net>

Subject: Fwd: FW:

Hey Dean,

Can you coordinate with Matthew?

Thanks and late Happy Birthday!

Mark

Sent from my iPhone

Begin forwarded message:

From: "Rowe, Matthew" <matthew.rowe@dnr.ga.gov>
Date: November 4, 2019 at 11:32:59 AM EST
To: "markballard@ecologicalsolutions.net" <markballard@ecologicalsolutions.net>
Subject: FW:

Mr. Ballard,

My name is Matthew Rowe and I'm the biologist in charge of freshwater mussels in the Apalachicola/Chattahoochee/Flint for GADNR. I've recently been following the Langdale-Riverview project and I'd like to come down to help out with your scheduled survey if you wouldn't mind. We can help with shoreline/snorkeling surveys and/or mussel ID. I'd like to get my eyes on the site in general but if I can time it with your work I think it would be valuable to both of us. Let me know if we can coordinate something. Thank you.

Matthew Rowe
Aquatic Biologist - Freshwater Invertebrates, Wildlife Conservation

Wildlife Resources Division [gcc01.safelinks.protection.outlook.com]
(706) 557-3217 | M: (678) 836-6132

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A division of the
GEORGIA DEPARTMENT OF NATURAL RESOURCES

From: Dodd, Anthony Ray <ARDODD@southernco.com>

Sent: Friday, November 1, 2019 4:27 PM

To: Rowe, Matthew <matthew.rowe@dnr.ga.gov>

Cc: Mark Ballard <markballard@ecologicalsolutions.net>

Subject:

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Hey Matt,

I hope all is well with you.

This is a note to let you know that Ecological Solutions hopes to start the mussel survey for the Langdale Riverview project next Wednesday. You are welcome to observe or participate in the survey.

If you choose to meet the crew, contact Mark Ballard

(markballard@ecologicalsolutions.net) and simply reference this email.

Thanks and hope you have a great weekend!

Tony

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From: [Dodd, Anthony Ray](#)
To: [Dodd, Anthony Ray](#)
Subject: FW: [EXTERNAL] Langdale Riverview mussel survey
Date: Tuesday, June 23, 2020 9:23:04 AM
Attachments: [image001.gif](#)

From: Abbott, Sandy <sandy_abbott@fws.gov>
Sent: Monday, December 02, 2019 12:14 PM
To: Dodd, Anthony Ray <ARDODD@southernco.com>
Subject: Re: [EXTERNAL] Langdale Riverview mussel survey

EXTERNAL MAIL: Caution Opening Links or Files

Thank you Tony!

On Mon, Dec 2, 2019 at 12:05 PM Dodd, Anthony Ray <ARDODD@southernco.com> wrote:

Hey Sandy,
I hope all is well with you.
I'm following up on our recent email regarding a mussel survey for the Langdale and Riverview Dams decommissioning project.
Due to a combination of factors (high river flows, West Point release schedules) that can negatively affect survey feasibility and surveyor safety,
GPC has elected to postpone the survey til late spring or summer of 2020. The postponement will be described in GPC's next project progress report (Dec 2019) to FERC.

-
I will keep you posted about the rescheduled effort when it comes due.

-
Best Regards,

-
Tony

-
Tony Dodd
Natural Resources Specialist
Georgia Power Company
241 Ralph McGill Blvd. NE
Atlanta, GA 30308

-
Desk: 404-506-5026
Cell: 404-434-9412
ardodd@southernco.com

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Sandy Abbott

US Fish and Wildlife Service

West GA Ecological Services Sub Office

Fish and Wildlife Biologist

706-544-7518

From: [Dodd, Anthony Ray](#)
To: [Dodd, Anthony Ray](#)
Subject: FW: Langdale Riverview mussel survey
Date: Tuesday, June 23, 2020 9:27:31 AM
Attachments: [image001.gif](#)

From: Dodd, Anthony Ray
Sent: Monday, December 02, 2019 12:05 PM
To: Abbott, Sandy <sandy_abbott@fws.gov>
Subject: Langdale Riverview mussel survey

Hey Sandy,

I hope all is well with you.

I'm following up on our recent email regarding a mussel survey for the Langdale and Riverview Dams decommissioning project.

Due to a combination of factors (high river flows, West Point release schedules) that can negatively affect survey feasibility and surveyor safety,

GPC has elected to postpone the survey til late spring or summer of 2020. The postponement will be described in GPC's next project progress report (Dec 2019) to FERC.

I will keep you posted about the rescheduled effort when it comes due.

Best Regards,

Tony

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Cell: 404-434-9412

ardodd@southernco.com



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From: [Dodd, Anthony Ray](#)
To: [Dodd, Anthony Ray](#)
Subject: FW: Goat Rock Lake Dam gate repair
Date: Tuesday, June 23, 2020 9:16:13 AM

From: Dodd, Anthony Ray <ARDODD@southernco.com>
Sent: Tuesday, June 16, 2020 8:59:17 AM
To: Rowe, Matthew <matthew.rowe@dnr.ga.gov>
Subject: Re: Goat Rock Lake Dam gate repair

I think they will try to wrap it up within 3 days beginning this morning.
Feel free to contact Dean Wilder with Ecological Solutions for logistics if/as needed, if you have the time. Controlled low flows have been coordinated there with the Corps of Engineers to accommodate the 3 day period.

Tony

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From: Rowe, Matthew <matthew.rowe@dnr.ga.gov>
Sent: Tuesday, June 16, 2020 8:55:09 AM
To: Dodd, Anthony Ray <ARDODD@southernco.com>
Subject: RE: Goat Rock Lake Dam gate repair

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Tony,

I forgot to get back to you sooner. I would have loved to have been there but my new seasonal technician is starting today. Will the survey be multiple days or is this it?

- Matt

From: Dodd, Anthony Ray <ARDODD@southernco.com>
Sent: Thursday, June 11, 2020 3:40 PM
To: Rowe, Matthew <matthew.rowe@dnr.ga.gov>
Subject: Re: Goat Rock Lake Dam gate repair

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Matt

Here's another project note. Our mussel survey for the Langdale and Riverview dam decommissioning project is scheduled to kick off on site Tues next week. Dean Wilder with Ecological

Solutions will be leading the effort. We'll watch conditions through Monday to make sure it's a go. We are coordinating altered peak generation flows with the Corps of Engineers to aid survey conditions next week. As we had discussed months ago, please feel free to observe, join in the effort, ...whatever level you feel you would like to participate if your schedule and covid-19 protocols permit.

Tony

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